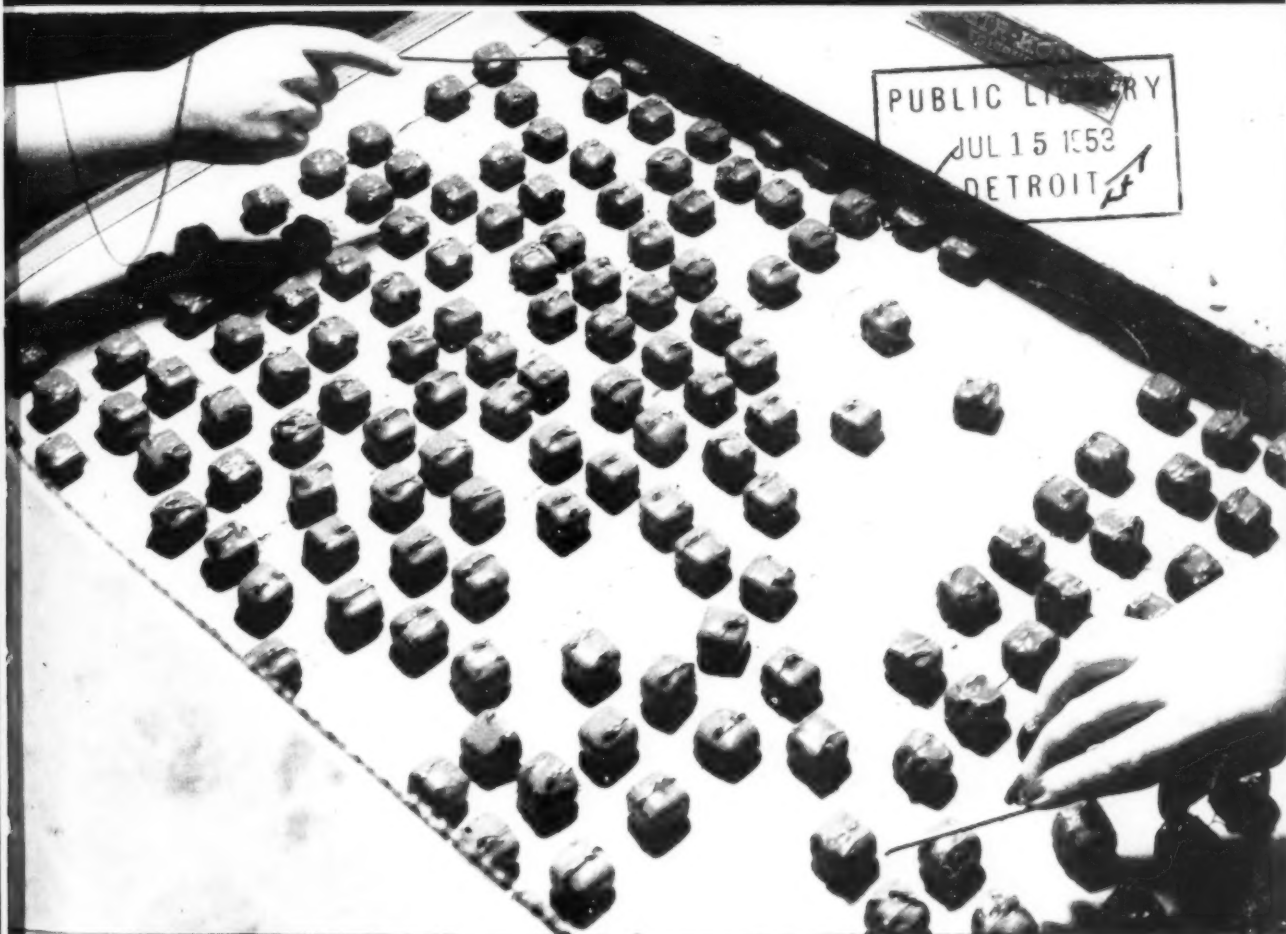


CHNOLOGY DEPT.



NEER SPECIALIZED PUBLICATION FOR CONFECTIONERY MANUFACTURERS



**JULY
1953**

The Use of Corn Syrup in Hard Candy
Why Set Quality Control Standards
The Art of Processing Pan Candies

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ZIMCO *Vanillin*
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Many manufacturers today are revising their vanilla flavor formulations, and this is the time to put the stress on quality — make a change for the better. The trend is back to real vanilla taste and the standard Alva vanillas have been doing just this job for years.

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An inexpensive grade, excellent for specialties.

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A clean, brilliant flavor, fine as a chocolate stretch.

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A dry imitation bean powder.

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... NOT just any mint, mind you,
but rather the kind that leaves a taste
that is nice and clean and coolly refreshing to the mouth.
Ah, but there's a world of difference in mints!
They're like the little girl in the nursery rhyme
who, "when she was good, she was very, very good,
but when she was bad, she was horrid."
And that's the way it is with mints. . . .
they can be very, very good—and many of them are—
or they can be plainly and simply horrid!
That's why, if you're at all concerned about repeat sales,
you should flavor your mint confection
with carefully selected oils
of unquestioned origin and quality.
Pound for pound, they'll probably cost a trifle more,
but in the final accounting, where profits are really made,
you'll find you can use less flavor
and still produce *tastier* candies. . . .
and with *tastier* candies, *more* sales.
That's why it will always pay you to use mint oils
backed up by the unqualified guarantee of FRITZSCHE. . . .
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also catalog . . . on
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The Manufacturing Confectioner

JULY
Vol. XXXIII

1953
No. 7

Edited and Published in Chicago
The Candy Manufacturing Center of the World



Quality Control is Essential for Volume

Candy Sales Mr. Robert Watson 19

The Art of Processing Candies in Revolving

Pans Lester L. Bettes 29

Corn Syrup in Hard Candy John M. Krno 49

A Research Summary 60

Editor's Column 6 Supply Field News 45

Calendar 12 Association News 55

Patents 36 Candy Clinic 56

Letters 40 Classified Ads 64

What's New 43 Advertiser's Index 66

COVER: Stringing Chocolates at the Kroeger plant at Cincinnati, Ohio

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All business is specialized

... and nothing specializes on the candy business like The Manufacturing Confectioner

This sea-going salesman can sell more because he specializes. The candy business, too, is specialized. That's why it pays to keep up with The Manufacturing Confectioner, which specializes on the business problems you meet daily. Follow the editorial features which gather, weigh and interpret the news . . . and the ads that report new products, materials and services.

The
Manufacturing
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is the
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trade
journal
edited
EXCLUSIVELY
for
candy
manufacturers

How to sell more candy

{timely tip . . . from a candymaker}

Of course we can't tell you how to run a candy plant . . . but we can tell you what a candymaker told us.

He said "for a sure-fire favorite, just mix plenty of almonds with either caramel or chocolate."

It made sense to us, because we hear customers in retail candy stores saying, "give me some of these . . . and these."

And they point to the almond pieces.

But making candy is your job, and you have your own ideas about formulas and ingredients. Our job is selling almonds . . . nearly three-quarters of all the almonds California produces.

Here at the "world's largest almond factory" we sort 'em by hand and by photo-electric eye to be sure you get top quality almonds, uniformly graded, free of dust, foreign particles, or bitters.

The nation's largest confectioners depend on Blue Diamond quality, and you can, too.

Let's talk about almonds . . . and about "how to sell more candy." Write for free formula booklet.

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The Favorite Candies Are Almond Candies

Conventions -- Meetings

July 6-9—National Confectionery Salesmen's Association, Annual Meeting, Atlantic City, N. J.
July 12-14—Merchandise Show, National Association of Variety Stores, Inc., Dallas, Texas, Baker Hotel.

July 14—Central Pennsylvania Candy Club monthly meeting.

July 25—Southwestern Candy Salesman's Association meeting and luncheon at Venus Restaurant, Commerce & Industrial, Dallas at 12:30 pm.

July 27-30—New York Candy Show, Sponsored by The Metropolitan Candy Brokers Association, Hotel Commodore, New York City.

July 30—Empire State Candy Club Clambake.

August 1—The Northwest Candy Club, regular meeting at Grosvenor House Seattle, Wash. 9:00 A.M. Breakfast.

August 2-5—Western Confectionery Salesmen's Association, Chicago, Ill.

August 2-6—Merchandise Show, National Association of Variety Stores, Inc., Hotel LaSalle, Chicago, Ill.

August 2-6—National Candy Wholesalers Association, Conrad Hilton Hotel, Chicago, Ill.

August 8—Michigan Tobacco & Candy Distributors Association monthly meeting, Lansing, Michigan.

August 9-11—Merchandise Show, National Association of Variety Stores, Inc., Wm. Penn Hotel, Pittsburgh, Pa.

August 13—Metropolitan Candy Brokers Association, Inc. monthly meeting at the Hotel Empire, N.Y.C. at 8 P.M.

August 15—The Northwest Candy Club, regular meeting at Grosvenor House Seattle, Wash. 9:AM breakfast.

August 16-18—Merchandising Show, National Association of Variety Stores, Inc. Municipal Auditorium, Atlanta, Georgia.

August 23-26—National Automatic Merchandising Association, Conrad Hilton Hotel, Chicago, Ill.

Aug. 31-Sept. 5—National Dietary Foods Association, Morrison Hotel, Chicago, Ill.

Sept. 11—Los Angeles Candy Club meeting.

Sept. 20-23—Philadelphia Candy Show, Sponsored by the Retail Confectioner's Ass'n, of Philadelphia.

Sept. 25-26—Michigan Tobacco & Candy Distributors Assn. Annual meeting in Hotel Sheraton-Cadillac, Detroit, Mich.

Sept. 29—The Candy Executives and Allied Industries Club Annual Shore dinner.

October 4-8—Advertising Specialty National Assn., Annual Convention and Specialty Fair, Palmer House, Chicago, Ill.

October 12-14—Packaging Institute, Hotel Statler, New York City.

October 19-20—Boston Conference on Distribution, 25th Anniversary Meeting, Hotel Statler, Boston, Mass.

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Editor's Column

THE Board of City Development of Brownsville, Texas, has let it be known that there is a very good opportunity for a candy manufacturing firm to operate in that city, specializing in such specialties as cactus candy, pumpkin candy, and various Mexican delicacies. They list as advantages of that city, air, rail, highway, barge and deep sea transportation, cheap labor, daily newspaper, radio and TV stations, modern hospital and junior college. The climate is semi-tropical, with light rainfall, and temperatures average 73 degrees. We expect that several candy makers, with handy formulas of cactus candy, et al, will sail right down to Brownsville to stake out a claim for the candy concession.

THE air lines are finally getting tired of scraping gum deposits off of the furniture of their planes, and are now swinging over to the use of candy mints to relieve that popping in their customers ears. Pan American expects to save several thousands of dollars in cleaning costs by converting to mints.

ONE of the most heartning displays of industry cooperation was exhibited in California recently when the Food Tax Equality Committee was organized to erase the ban on candy in that state's

retail sales tax law. Arch Riddell did a marvelous job of organization of the candy companies, their customers, and suppliers. It was just a quirk of lousy luck that prevented their efforts from being successful. However, if the spirit that was shown in their efforts, and bulletins, and exhortations to the trade is any indication, they will be hot on the same trail next year and the following years till that effort is successful.

IN noting the recent supreme court decision in the Automatic Canteen case, invalidating the lower court's ruling and exonerating the company from any unlawful results from its buying practices, we are distinctly inclined to follow the majority opinion of the court. Whatever may have been the special consideration in this specific case, the attempt to place the responsibility of unlawful results of price bargaining onto the buyer seems a little dangerous to be formally recognized by the supreme court. It would appear that far more responsibility should be borne by the manufacturer or seller who grants these cuts, and the burden of proof should be on the part of the Federal Trade Commission and those parties who instigate the investigation.

AS if we did not have enough trouble with the medical profession in their attacks on candy, a new one has popped up. A medical school professor has said that kids who eat large amounts of candy may suffer from hypoglycemia, low blood sugar content. It was explained that high sugar in-

It's hard to do...but it can be done and Wilbur does it again and again



THE exact meeting of ALL specifications for coatings, liquors and other chocolate products year in and year out is not easy. Candy manufacturers know they can rely on Wilbur for that exceptional uniformity of product which simplifies their manufacturing and assures a constant quality. You, too, can build sales with Wilbur uniform quality chocolate coatings.

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helping hands...of your
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Increase Sales Appeal with

FLAVOR Appeal

Your flavor manufacturer has only one aim . . . to help you put flavor into your candy that *sells*. To accomplish this aim he places all his skill and experience at your service. He works closely with you to furnish the flavor formulation that's exactly right for your product.

Naturally, since your flavor manufacturer is an expert, he selects Monsanto flavors as his key ingredients. These products . . . leaders in the field for years . . . are used in both centers and coatings.

Monsanto Ethavan (ethyl vanillin), for example, is preferred because of its strength and purity. Send for folder on Ethavan containing information and solubility

tables. MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 800 North Twelfth Blvd., St. Louis 1, Missouri.

Ethavan: Reg. U. S. Pat. Off.

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CHEMICALS-PLASTICS

SERVING INDUSTRY... WHICH SERVES MANKIND



take (candy, of course) stimulates the pancreatic gland, causing high insulin production which burns up body sugars. Treatment: Maybe eating ice-cream, cookies, and soft drinks?

VENDING machines are cropping up again in England, since candy rationing was discontinued. The main problem: altering equipment to take the four cent piece (!) instead of the pre-war penny.

CANDY really got a boost in the promotion for Secretary's Day, May 27th. The primary illustration for this event was a secretary (very pretty), a typewriter, a dictaphone, and a box of candy. This industry could use a lot more of this type of inter-association promotion.

IF any candy manufacturer or distributor really wants facts to reply to any charges of candy being detrimental to teeth, they should read "A Survey of the Literature of Dental Caries," recently published by the National Research Council. This is an analysis of the writings done by researchers over many years, on who have entertained many theories of the cause of tooth decay. The general consensus seems to be that the causes are rooted deep in environmental and genetic factors, and that nothing as simple as sugar in the mouth can satisfactorily explain tooth decay, and provide a path of correction of this condition.

ATERIFFIC singing commercial seems to be in the works, "Candy Bar Boogie, (Eight Bites

to the Bar), published recently. Here is something that the NCA could really take over for industry promotion.

ACOMPANY Guide to Effective Stockholder Relations, is the title of a new booklet put out by the American Management Association. If any candy company is in need of such advice, they can get a copy for \$2, and \$.150 if they are members.

AT THE NCA convention the problem of returned goods was attacked from two opposite directions. One was that presented by Mr. Watson of Sears, who emphasized the need for quality control to reduce the amount of returned goods. The other was by Dr. Martin of the Southern Regional Laboratories, who stressed the development of antioxidants and their place in preventing deterioration of candy while in distribution channels. It has always seemed to us that the problem of returned goods was almost entirely in the field of quality control. If shelf-life is not built into the formula and the package, no amount of quality control can make the candy stay fresh. However, if shelf-life has been planned, and set up in the formula and packaging, systematic quality control is a must to maintain this shelf-life. While the use of improved antioxidants will extend shelf-life and allow candies of increased quality to be wholesaled, the manufacturers of such products are courting a lot of returned-goods headaches unless an effective



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If your product requires strawberry, you can supply it in full measure, economically, with superior quality SYNFLEUR IMITATION STRAWBERRY 1950. Order a trial pint today at \$3.25 postpaid.



Founded 1889 by Alois Von Jaakovic

SYNFLEUR IMITATION STRAWBERRY 1950 is part of a complete line of superb flavorings. Write for full information about flavors you are interested in, advising the products to be flavored.

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CANADA: Herman & Leal • 637 Craig Street West • Montreal, Quebec

quality control system is installed to maintain that shelf-life.

THE policy statements adopted at the convention by the NCA are in the main quite harmless, and deal with matters in which the industry seems to be in general agreement. However, there is one statement on which we would like to get a little more general opinion. Statement #5, dealing with the Food and Drug, indicates that the industry would like to have the provision that candy must be composed entirely of nutritive ingredients deleted from the law. In recent years this regulation has proven a distinct handicap as there have been many chemicals in the antioxidant and emulsifier class which are used to great advantage in other foods, but which cannot be legally used in candy because they are not nutritive. There seems to be very little chance for this legislation to pass in congress, which is what would have to happen if these non-nutritive substances were to be allowed in candy. On the other hand, it seems to us that this legal requirement is one that this industry might advertise to good advantage. There is no other food product that is required by law to be 100% nutritive. Energetic promotion of this fact should counteract much of the anti-candy propaganda which has been so wide-spread of late. Of course, this would have to be a united industry campaign, and perhaps there is no more chance to get industry-wide cooperation on this program, than there is to get the law changed.

The industry was told at the NCA convention several times that the volume of candy was rising in this country, and that there was an improvement this year over last. This fact was featured in many of the daily newspapers, giving a very favorable impression as to the condition of the industry.

On returning from the convention, I found before me the report from the Dept. of Commerce giving the statistics for the first four months of 1953, compared to 1952. The facts stated there are far from rosy. While the report shows an increase of 2% in the value of candy shipped, that fact is rather more than cancelled when in the next column it is noted that the tonnage shipped is approximately 1% lower than for the comparable period of 1952. It seems rather obvious that the variation in tonnage is far more significant than that of value, at least as far as the health of the industry is concerned. A further disturbing fact is that there is no consideration of the influence of an increasing population on candy sales. Considering that the average increase of population is over 3%, the 2% increase in value looks like a net loss in per-capita-consumption, and the 1% decrease in tonnage has all the earmarks of a very unhealthy drop in the popularity of candy to the American public.

Let's not hide these discouraging figures under a curtain of false "rationalizing", but face up to them, and try to attack some of the basic causes on a united front.

**THERE ARE
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IN THE WORLD
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WHICH BEAR THIS LABEL**

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Wherever orange oil is used EXCHANGE Brand is preferred

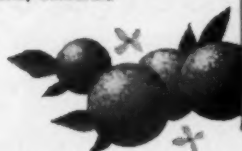
For the true aroma and flavor of fine California oranges, use EXCHANGE Oil of Orange in your products.


EXCHANGE orange oil is made entirely from selected oranges from the groves of sunny California. This finer fruit, plus carefully controlled

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"DOLCOURIN" ...a completely new flavor composition, is the result of the D&O Product Development Laboratories' concentrated efforts upon the Coumarin replacement problem. Non-alcoholic, high in fixative value, and approximately equal in flavor strength and tonal quality to Coumarin, "Dolcourin" is offered as a replacement suggestion to users of this material. "Dolcourin" contains no Coumarin or Coumarin derivatives whatsoever, and is suggested for use in any formula where Coumarin or Tonka are now employed as a complete or partial replacement. Tests have shown that the material blends well in Vanilla formulations and, in many instances may even be preferred to Coumarin. Price \$2.50 per pound, in 25 pound quantities.

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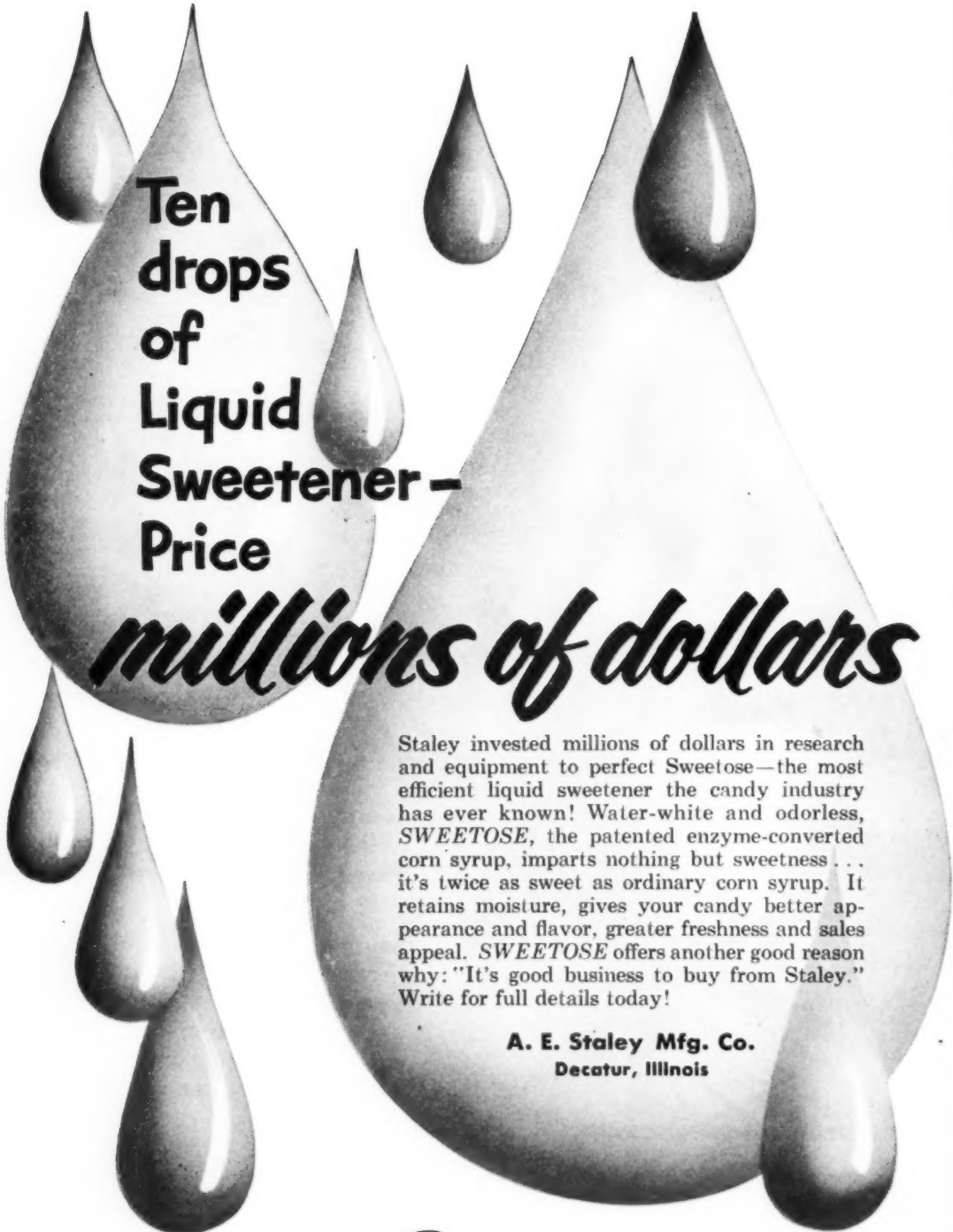
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Southern Belle Pecans are available in halves or pieces of various sizes. All are consistently of the very highest quality.

Southern Belle Pecans are assisting greatly in increasing the eye and taste-appeal of the products of America's leading candy manufacturers. We invite you to get details and prices today.



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Staley invested millions of dollars in research and equipment to perfect Sweetose—the most efficient liquid sweetener the candy industry has ever known! Water-white and odorless, SWEETOSE, the patented enzyme-converted corn syrup, imparts nothing but sweetness... it's twice as sweet as ordinary corn syrup. It retains moisture, gives your candy better appearance and flavor, greater freshness and sales appeal. SWEETOSE offers another good reason why: "It's good business to buy from Staley." Write for full details today!

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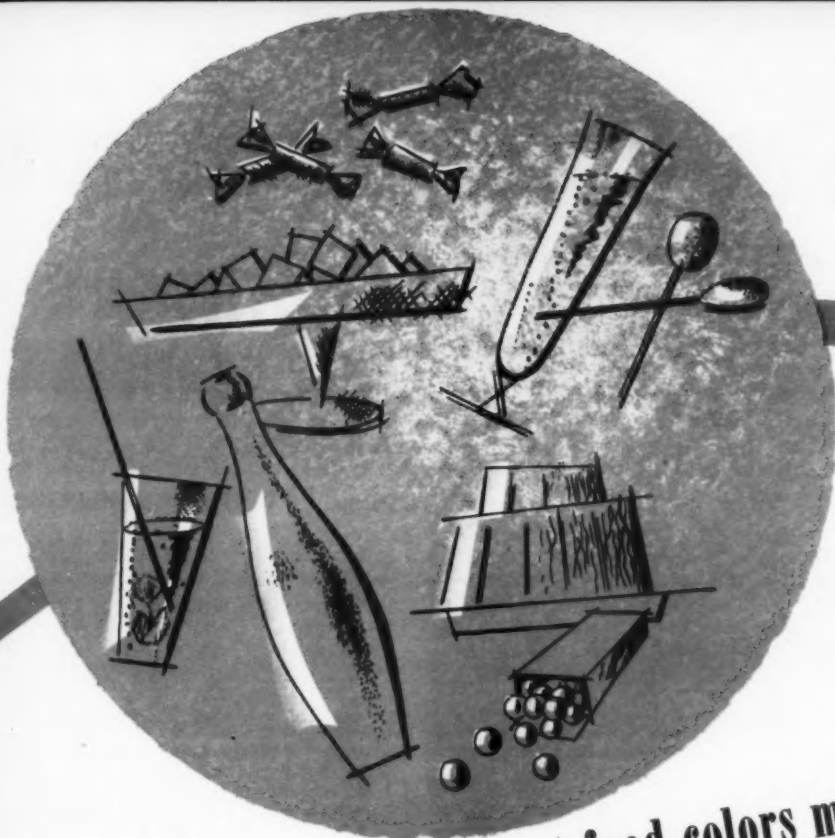
STALEY'S LIQUID SWEETENER THAT MAKES CANDY LOOK
BETTER, TASTE BETTER, KEEP BETTER—AND COSTS LESS!



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Included in every pound of National Certified Color is our continuing pledge that "No higher quality can be consistently maintained".

National Certified Colors represent America's longest and broadest experience in the manufacture of these complicated organic compounds.

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Mr. Watson told at the NCA Convention what quality control means to the candy buyer. He discusses how his company is conducting a "one-company crusade" to make quality control a standard practice among its suppliers.

Quality Control is Essential for Volume Candy Sales

by ROBERT..W. WATSON

Sears, Roebuck & Co.

IF this were a convention of hardware manufacturers, it would not be surprising to find a representative of Sears, Roebuck and Company included as a speaker. This would also be true of any major appliance industry, or in the automotive accessory field. Sears has been well established in these industries for many years.

It is difficult to justify the appearance of a Sears representative on the program of the National Confectioners' Association Convention. Because of the comparatively limited number of distributive outlets we have available for candy, and because of the relative unimportance of this product within our organization up until now, our total candy sales have just started to grow. This is particularly true in comparison with the tremendous volume of candy sales produced by food market chains, limited price variety stores, and the more than 500,000 independent retailers. Before attempting to explain the reason for my appearance on this program, perhaps you will be interested in a brief discussion of Sears' buying policies in all industries.

By working closely with many medium sized and small manufacturers, particularly in most of the hard line and big ticket categories, Sears has established a manufacturer-distributor relationship which, to an extent, has revolutionized traditional chain store buying methods. By studying and understanding the manufacturers' problems, Sears has integrated their distribution and merchandising planning with manufacturing production schedules. This has usually made it possible to eliminate production peaks and valleys, and schedule production requirements throughout the year, with resulting savings in manufacturing costs and increased values to the consumer.

By taking full advantage of Sears Merchandise Development and Testing Laboratories, Sears buyers and

manufacturers have been able to improve product design and performance, and, in some instances, manufacturing methods.

Sears, Roebuck and Company's Annual Report to Stockholders for 1952 devoted considerable space to the importance of our Merchandise Development and Testing Laboratories. To quote from part of this report: "Over the years the laboratory has assumed many functions, but serving as a scientific aid to the buying organization, to provide the best possible values, and to avoid the purchase of inferior products, remains one of its important assignments. Customer good will is Sears greatest asset; "Satisfaction Guaranteed or Your Money Back" has long been the policy of the Company. Through the years the Laboratory has been important in making that policy effective."

This contribution to merchandise improvement has been particularly outstanding in the fields of refrigeration, laundry equipment, stoves and plumbing and heating. Some excellent contributions have also been made in the textile fields.

In this manner, Sears, Roebuck and Company has definitely contributed to the growth of small business in the United States. While this may sound paradoxical, the fact remains that Sears has supported, and helped increase in size, hundreds of smaller manufacturers in many industries, in all parts of our country. This far-sighted policy will continue to pay dividends to both manufacturers and Sears, as it helps develop a more balanced economy in each geographic area.

Candy in Sears

While Sears has always sold some candy, no major effort to increase our distribution of this product was made until 1948. Up until that time, candy buying and

merchandising was a section of our drug and cosmetic department. In 1948, the Candy Department was established as a separate merchandise division.

Our first step was to select and train several Regional Candy Buyers, who became responsible for the development of candy sales in each geographic territory. Because of the perishability of candy and the importance of quick service of supply, this method of buying was considered superior to an organization centralized in Chicago. It was also thought, that because of the relative unimportance of our sales in the average individual store, the concentration of this field organization on merchandising, as well as on buying, would accelerate our sales growth within Sears.

The establishment of regional buying pointed up the necessity for the development of quality standards for candy. Without reasonably definite standards, it would be impossible to control uniformity and consistency throughout the country. Historically, most candy buying had been done on the basis of personal opinion. This would no longer suffice for Sears, because a variety of personal opinions would be involved.

Competition and comparison with stronger, more well established merchandise departments within Sears also emphasized the need for quality standards and the definition of quality differences in candy. In most of our merchandise departments, quality differences were well defined, and a customer clearly understood why it was usually advisable to purchase the better quality, even though the selling price might be higher. It was not possible to do this intelligently in the candy department. For instance, when you buy an automobile tire from Sears, you get a choice of different qualities with different mileage guarantees, so that you can intelligently select the quality which you prefer at the price that you want to pay. Obviously, this has taken many years of hard work and thorough experience in each industry.

Therefore, Sears Merchandise Development and Testing Laboratories went to work on the problem of establishing quality standards for candy. This program has taken more than four years, and is still in progress, as the standards which have been established are flexible and will undoubtedly require further refinement before they are completely acceptable.

We have, however, established standards which are practical, as far as our regional buying system is concerned. To some extent, these standards also make it possible for us to define quality differences in candy to our sales personnel and to our customers.

Standards from the Consumers Point of View

Our objective was the setting of standards, not from a production, but from a consumer point of view. There was considerable skepticism among several manufacturers concerning the practicality and even the possibility of setting candy standards.

Candy has been regarded as having intangible and variable properties which could not be given definite expression. It is a common tendency, where we have an edible product, to disregard its being a combination of chemical substances, such as sugar and corn syrup, which it most certainly is. Being such a combination, it obeys the laws of nature, and never gives an unpredict-

able result, if studied sufficiently. Therefore, it is capable of prediction, control and evaluation.

Most of the resistance we initially encountered has been overcome. I am happy to say; because through a series of methods, chemical, physical and organoleptic (taste analysis) in nature, we have given an evaluation to most of candies' qualities, both tangible and intangible.

As a result of our research, we determined that the following five factors are essential in the development of fine quality candies:

1. Taste Satisfaction.
2. Quality and Quantity of Proper Ingredients.
3. Appearance.
4. Candy Making Know-How.
5. Laboratory Controlled Quality.

Now, by using these factors to evaluate our merchandise, we are able to classify candies into four categories:

SUBSTANDARD: This is merchandise not acceptable by Sears, because it fails to meet our minimum requirements in any one, or more, of the following respects: taste appeal, ingredient quality or percentages, appearance or shelf life. This does not, however, mean that it is impure or inedible.

GOOD QUALITY: This represents candy which meets Sears minimum standards of quality.

BETTER QUALITY: This is good quality merchandise sufficiently improved to be readily recognized for its plus quality features.

BEST QUALITY: This represents candy for which we have set standards as high as practical to permit volume sales to the American mass market.

I shall now further define our quality measurement factors:

TASTE SATISFACTION is judged by our taste panel by giving a comparative preference rating to each piece of candy. This rating is expressed on a point scoring chart by each panel member. Chart results are tabulated and analyzed by Sears Candy Laboratory. Incidentally, our Taste Panel is staffed with individuals whose ability to differentiate between flavors was established through a series of blind tests. To maintain complete impartiality, no individual from the Candy Department is a member of this panel.

QUALITY AND QUANTITY OF PROPER INGREDIENTS are determined in our laboratory by a series of chemical and physical tests. Percentages of sugar, corn syrup, butter (or vegetable butter), superior or inferior quality chocolate all have a bearing on the final quality rating.

APPEARANCE is evaluated the same as taste satisfaction. Samples are point rated on the basis of color, gloss and eye appeal. Results are tabulated and analyzed by the Sears Candy Laboratory. In this instance, a more professional panel, including some members of the Candy Department, is used.

CANDY MAKING KNOW-HOW is reflected in the taste, finished appearance and shelf life of the product. It is the result of efficient equipment, capable management and an open mind to new ideas and ways of doing things. Just as in the kitchen at home, two cooks using exactly the same ingredients may produce entirely different cakes, on a larger scale this is also true of two different candy manufacturers. Know-How makes the difference. Production facilities and managerial competence of our

In January of this year Sears held a unique conference of candy manufacturers, in order to explain to them Sears' policy of buying, and the reasons for it. The two day session was primarily a discussion of the place of quality control in candy buying, and in candy manufacturing. More of these conferences are planned, on a regional basis, to continue to spread the "gospel" of scientific buying and manufacturing through the use of quality control techniques.

sources, are checked by our buyers and the Sears Candy Laboratory.

LABORATORY CONTROLLED QUALITY is recognized in a uniform product. It means the selection of proper ingredients, the same quality and amount of coating on each piece, the same consistency and tenderness, the same flavor, not only in the sample but in all merchandise delivered. Adequate quality control laboratories are lacking in most candy factories; and, in our opinion, this is one of the weak points of the industry.

To further illustrate our quality standards, we shall show three photographs taken from a slide film presentation used in connection with the training of Sears candy sales personnel. These illustrate chocolate coated almonds; and, for the sake of simplicity, we do not discuss variations of quality grades of the almonds themselves. This example should make it possible for you to understand how we apply quality standards to all types of candy.

SLIDE 1: Let us consider chocolate covered almonds.

A good quality chocolate almond can be made with six parts of chocolate and one part of almond with a reasonably good milk chocolate coating. This will produce a piece which is practically all chocolate and very little almond. On today's market, this might retail at 70c per pound. We did not discuss a standard item in our sales training presentation, but obviously, it would represent an item with more than six parts of chocolate, and possibly, light sweet instead of milk chocolate coating.

SLIDE 2. A better quality chocolate covered almond will be made with four parts of better quality milk chocolate coating and one part almond. This produces a piece which has a good balance of chocolate and almond, and satisfies the tastes of most of our customers. On today's market, this will retail at about \$1.00 per pound.

SLIDE 3: To obtain a best quality chocolate covered almond, we must use two parts of top quality milk (or dark vanilla) chocolate coating and one part of almond. This will produce an excellent piece, preferred by the most discriminating candy eaters, and the approximate selling price on today's market will be \$1.50 per pound.

The possibilities of discussion on this matter of quality standards are endless, but we hope that this has given you a general idea of how we have applied standards at Sears.

Quality Standards and Quality Control

It is questionable whether quality standards are practical for the candy industry as a whole. The problems of agreement on definitions might be endless. In my opinion, industry development and enforcement would be preferable to outside action, but this would require

a degree of cooperation and unselfishness on the part of individual manufacturers which would be exceedingly difficult to obtain. Even if it were possible to obtain the full cooperation of all 300 members of the National Confectioners' Association, it is understood that there are many additional small candy manufacturers who are not members of this association.

I hope, however, that the National Confectioners' Association will at some time consider the establishment of a Committee to study the advisability and practicality of a quality standards program within the industry, or, at least, the possibility of setting minimum quality standards.

The development of Sears Quality Standards for candy has been only a partial answer to our problem. We can provide our Regional Buyers with detailed specifications of each quality grade. We can also, to some degree, inform our selling personnel and our customers regarding quality differences.

We must, however, guarantee to our customers consistent and uniform delivery of each product once the standards have been defined. We have found this to be a problem in the candy industry, particularly because of our policy of decentralized buying. In our opinion, less than ten percent of our normal sources of supply (excluding bar goods houses) have satisfactory, scientific control of candy quality, uniformity and consistency.

If we expect to successfully compete with other merchandise departments within Sears, this percentage is substantially too low. It is our humble opinion that, if the candy industry is to successfully compete with other food industries, the percentage of companies with scientific quality control must be materially increased.

Another reason for the importance of the further development of Scientific Quality Control within the candy industry, is the gradual change in managership in some of the small companies. Many small factories, which developed on a father and son basis, depend largely on the individual owner or principal for all phases of supervision including quality control. As this becomes less and less practical under present business conditions, it points up the necessity of establishing more scientific controls.

Because of the importance of this problem to our Company, Sears, Roebuck and Company fostered a meeting of thirty-four key candy suppliers in January this year, to encourage the further development of scientific quality controls within the candy industry. It is because of this meeting that I was asked to make this presentation to you.

Our meeting was necessarily limited because of inadequate facilities to accommodate more manufacturers. In two days, however, we were able to present to the individuals, who were there, a great deal of concentrated information. As we expected, the immediate results of this meeting were not revolutionary. As part of a long term program, we think that it was successful, primarily because it stimulated the thinking of several manufacturers.

Obviously, it will not be possible for me to cover in a few minutes what many of us presented in two days. I shall, however, mention the highlights of our recommendations to the medium and small sized candy manufacturers.

The Benefits of a Quality Control System, and How to Set it Up

The main reason for the lack of adequate laboratory facilities in most candy plants is the fact that such an operation would require an initial cash investment. We are not in disagreement with this; improvements invariably do cost money at the start, and the immediate cost of an effective quality control program might be reflected in higher candy prices. In most factories, however, the cost per pound would be fractional. Based on the experience of several factories, an effective quality control laboratory will result in long term savings in production costs.

Some of the advantages of a candy laboratory are as follows:

1. Quality control of raw materials.
2. Quality control over, and improvement of, production.
3. Quality control of finished goods, which means not only the candy itself, but also packaging materials.
4. Constant development and improvement of formulas and methods, resulting in cost savings.
5. Improved sanitation and housekeeping.
6. Improved customer acceptance because of their confidence in the uniformly high quality of your products.
7. First step towards the establishment of an effective research program.

To give you an idea of how such a laboratory would look, we shall show this photograph of the display which was set up at our meeting by the Fisher Scientific Company. This is only eighteen feet long and three feet deep, and will give you an idea of the small space which is required by a laboratory.

In this display, we have included the minimum essentials for a smoothly operating laboratory. Depending upon your operation, the cost of such a laboratory, including the required glassware and chemicals, is between \$3,500 and \$3,900. All of us probably know of candy manufacturers driving high priced automobiles, who could not possibly afford a candy laboratory. The representatives of laboratory equipment companies are located throughout the country, and will be glad to work with you in planning an effective candy laboratory suitable for your specific purpose.

Naturally, you will need someone to conduct the work. If you have a technically minded individual in your plant, with some background in food technology, he would be your man. If such is not the case, a young chemist would fit into the situation. Experienced candy chemists are difficult to find.

Therefore, a young chemist is at no more of a disadvantage than an older man, who would command a higher salary. A young chemist can be moulded. He is not inflexible, he will be cooperative, and is not hindered in his thinking by past experience. He can give a fresh, enthusiastic approach to his work.

To obtain such an individual, we suggest that you investigate graduating students at nearby Universities and Colleges. Three particularly good schools worthy of mention are Lehigh University, where candy research has been carried on for several years, Massachusetts Institute of Technology and the Illinois Institute of Technology. Another organization to turn to is the American

Chemical Society which has a placement service. The salary of a young chemist will average between \$4,000 and \$8,000 annually, depending upon age, experience and geographic location.

Manufacturers, who have recently established laboratories and employed young chemists, have mentioned the following cost savings:

1. Improvements in formula developed in the laboratory have increased production as much as 25%.
2. Through the setting of specifications for raw materials, and checking to see that these specifications are met, production was substantially increased with considerably less scrap.
3. Measurement of colors and flavors by the laboratory results in 10% to 25% savings in cost.
4. Besides strengthening the sanitation program in the factory; the shipping room, storage space, warehouses and transportation vehicles are checked periodically for unsanitary conditions. Unless these conditions are carefully controlled, they can result in infestation which will spoil our products.
5. Some services rendered by a laboratory cannot be measured in dollars and cents. The psychological influence on all personnel is inspiring. It is difficult to see how any food plant can function without the assistance of a laboratory, which continually checks the cleanliness of its raw materials, methods and products.

When a manufacturer, without scientific testing and control facilities, is asked how he can get along without them, he usually replies that he obtains raw materials from only reputable, well known suppliers, which assures him of uniform, satisfactory quality.

We know of a candy manufacturer who bought his chocolate from a reputable supplier. He paid for 15% whole milk solids, and so advertised his goods to his customers. He thought it might be worthwhile to have it checked by an outside laboratory. In six deliveries, the coating was found to range from 11.8% to 16% whole milk solids—even below Federal specifications. The chocolate manufacturer is reputable, but faces the same problem of human error as all of us.

The candy manufacturer who does not need scientific quality control, has a plant manager, or a head candy maker, Joe Doakes, who has been with him twenty years, and who has been a candy maker for thirty five years. Joe knows how to adjust formulas and will not release any unsatisfactory candy. Joe Doakes is not always infallible, and sometimes he is ill. His relief man's hand may be twice the size of his, and perhaps the wrong amount of citric acid, or sodium acetate, gets into the batch. This sounds a little far-fetched, but we have actually encountered such conditions.

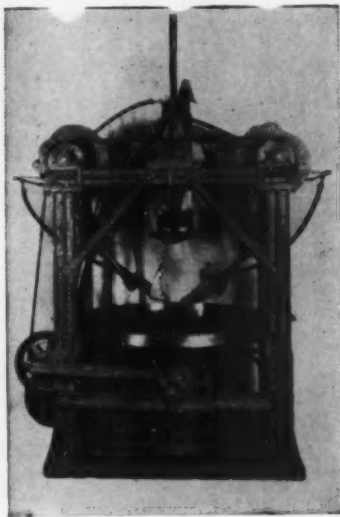
If, because of some impossible combination of circumstances, unsatisfactory candy is released by this manufacturer, the distributor can return it for full credit. The return of unsatisfactory goods not only represents economic waste—it usually means lost candy customers, which is a far more serious consequence. Candy is a combination of chemicals which obey laws of nature. Small variations in their percentages or in manufacturing procedure can lead to detrimental results.

(Please turn to page 47)

JULY, 1953

Candy Equipment

PREVIEW



BERKS BATCH MIXER

**A Hard Worker
Skilled
Dependable
and Equal To Two Men**

We have that and more—the Berks Hard Candy Batch Mixer. Over 300 in operation throughout the world, with as many as 12 in one plant.

The Berks Mixer will uniformly incorporate color, flavor and acid. The batch size can be from 60 to 135 lbs. Scrap as high as 10% of the batch can be mixed in directly on the table.

The savings effected in labor and floor

space pay for the Berks Mixer in a short time.

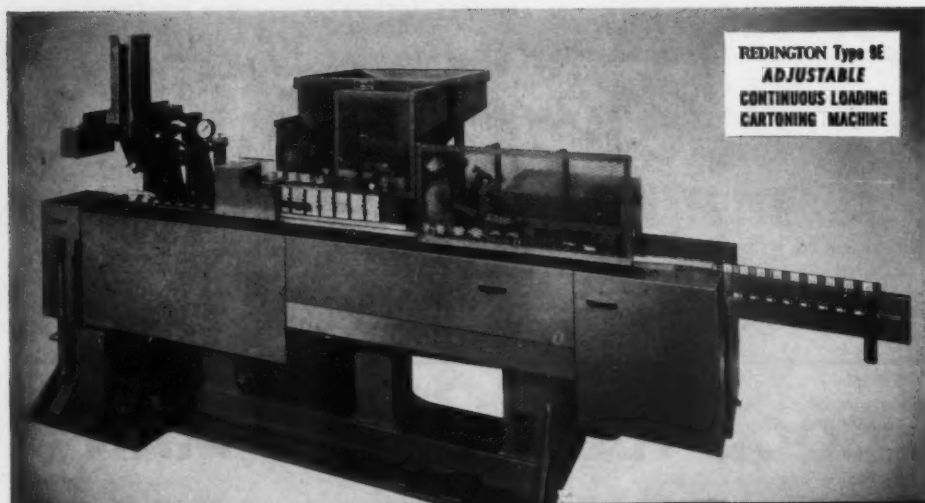
Mixing time required for clear solid candies: 5 to 6 minutes. Cooling time required for pulling machine: 2 to 3 minutes.

Table arms and plunger are all water cooled—requiring the same amount of water as a slab.

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REDINGTON Type 9E
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CONTINUOUS LOADING
CARTONING MACHINE

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★ **you can CUT LABOR COSTS...
and SPEED UP PRODUCTION... with a
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This REDINGTON Type 9E Vertical is fully automatic. It magazine-feeds a flat-stacked carton, volumetrically measures out the correct amount of product, fills the carton, and closes it neatly and tightly.

Machines of this type are in use by candy packagers both large and small in all parts of the country. With the supervision of only a single operator, they get production speeds up to 150 packages per minute—hour after hour, day in and day out.

TYPE 9E REDINGTONS are often built adjustable for two or more carton sizes; and with mechanism for automatically paper-lining cartons. Like all REDINGTON packaging machines, they have such long-life, low-maintenance features as ground and polished shafting, self-aligning roller bearings, one-piece cast iron frame, and numerous others.

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ACCURATE PRODUCT COUNT...**

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Other REDINGTON machines turn out millions of packages per year of roll-wrapped products such as Life Savers, Curtiss, Tums, and other famous brands, many with easy-opening tapes, multiple wraps and other special features.



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Get specific facts and ideas for YOUR packaging operation, based on REDINGTON'S half-century of experience in helping smaller or medium-volume packagers get higher efficiency, lower costs. Just tell us your product, and how you package it now. No obligation!

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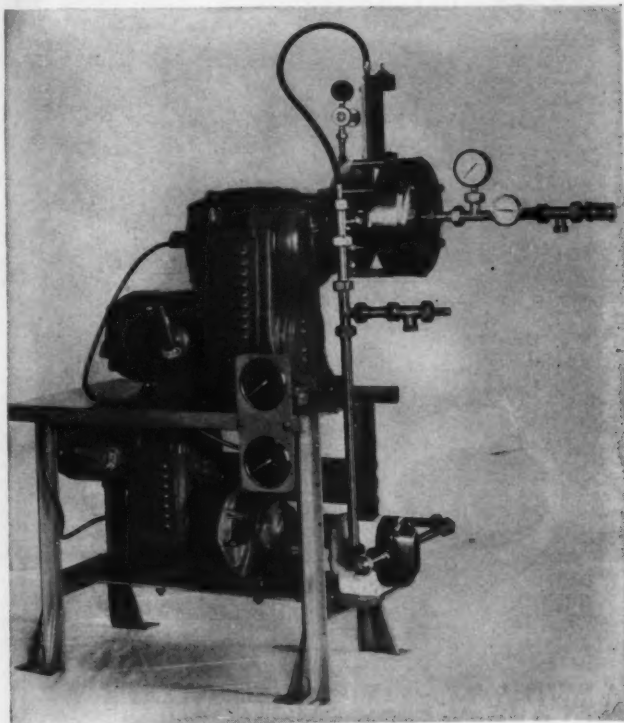
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CARTONING...WRAPPING
SPECIAL PACKAGING**

— SINCE 1897 —

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In 5 years - 300 Installations

The Money-Maker Mixer for Marshmallow



Oakes Continuous Automatic Mixer

Some idea of the extent to which conventional mixers are being replaced by Oakes Continuous Automatic Mixers may be gained from the fact that there are now more than 300 installations in the candy and other industries.

Oakes Continuous Automatic Mixers offer these advantages in marshmallow production:—

- Superior quality with uniform, velvet-smooth texture
- Sanitary production
- Increased production capacity
- Reduced costs
- Shorter starch time
- Less tackiness with more moisture
- More tender, better eating marshmallow
- Automatic controls

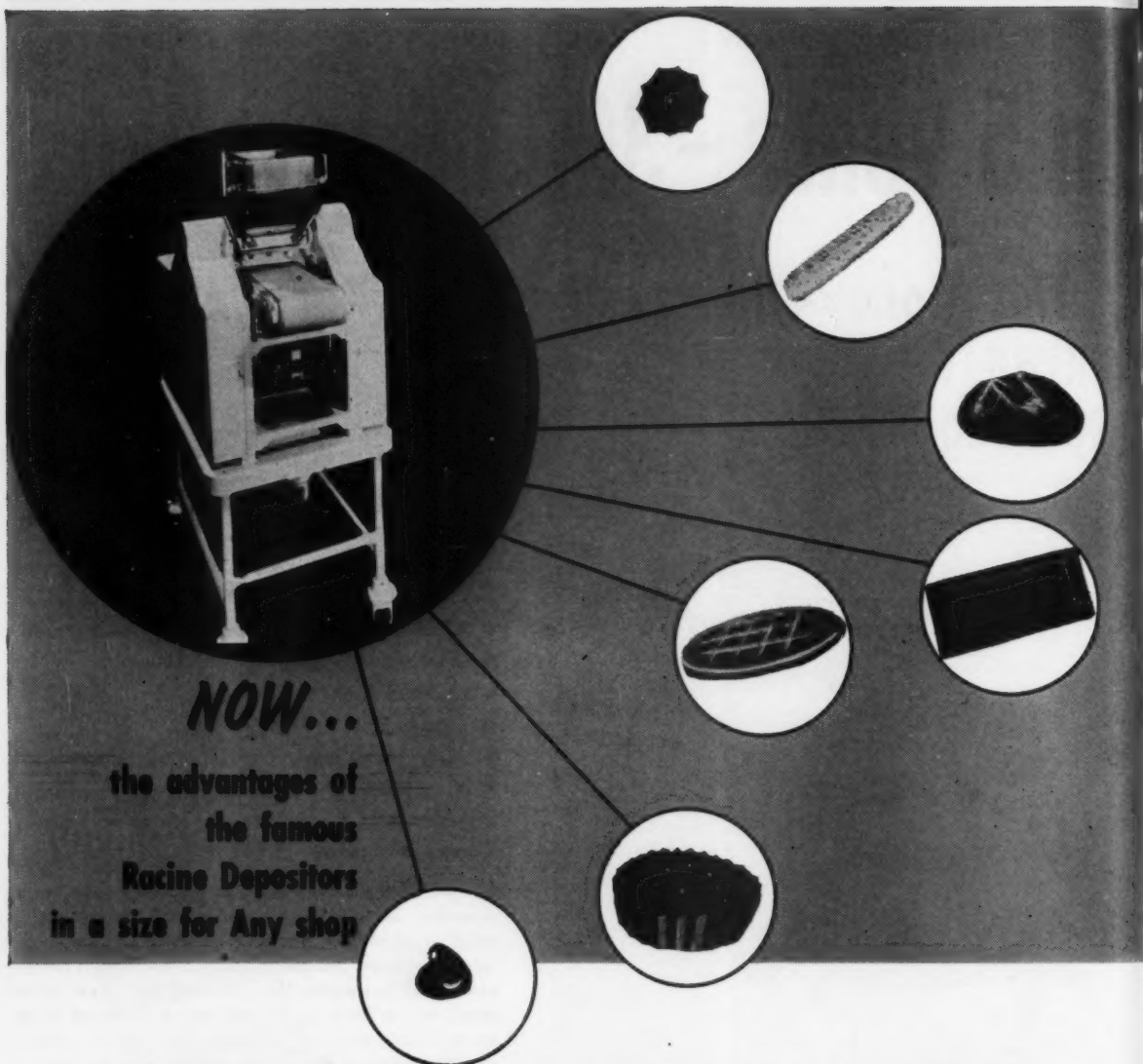
Completely sanitary mixing is in a closed system, under pressure. Air and syrup are metered into the mixing head in continuous, proportionate streams. Both receive the same amount of mixing, resulting in marshmallow of extremely fine cell structure. Less initial moisture—as little as 22 per cent is required in the syrup—less needs to be taken out. Starch time is greatly reduced; the candy can be packed with as much as 19 per cent moisture, yet, because of the fine cell structure with less tendency to stick. This same cell structure, too, gives a firmer product with less gelatin. The marshmallow is tender, smooth, of much improved eating quality and longer shelf life. Savings are such as frequently to pay for the equipment the first year.

All controls are automatic so that operator errors are eliminated. Capacity is 3,000 pounds per hour of white cast candy marshmallow from the Model 14M-5 Oakes Continuous Automatic Mixer, and half that capacity from the Model 10M-3. Inquiries will be welcomed.

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The Bantam Depositor is perfect for creams, mint or chocolate patties, cocoanut kisses, pralines, mounds or bars, maple moulded creams, gum drops, marshmallow or nougat pieces, chocolate bars, kisses, miniature and large bits, stars, leafs, wafers, nonpareils, etc.

Deposits can be made with or without small or chopped nuts, fruits, etc., making deposits in all types of molds, foil or paper cups, or direct on trays, plaques or belts.

Electric motors and variable speed controls permit nominal or maximum production as desired. Main drive electric motor and electric water circulating pump operate from any light circuit. No other connection is necessary.

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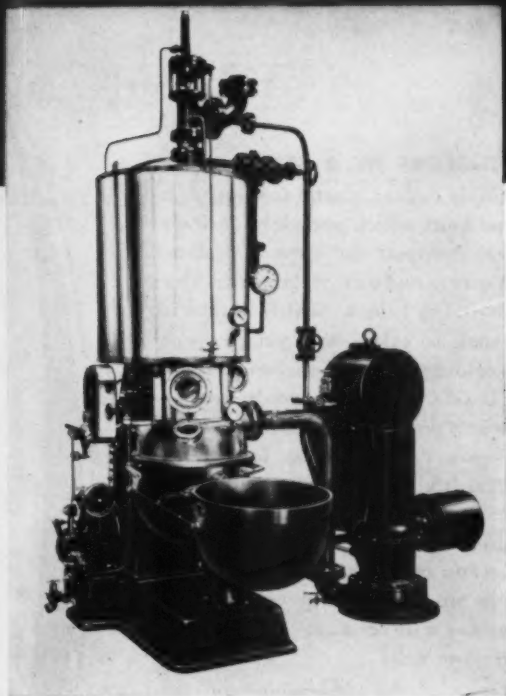
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CONTINUOUS-VACUUM COOKER

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- 2—The batch-vacuum cooking process, by means of the intermediate chamber and special vacuum controls.

This flexibility of method enables you to produce a brittle and tough candy mass or a malleable and soft mass. It also permits the use of a maximum or minimum amount of corn syrup to the sugar solution.

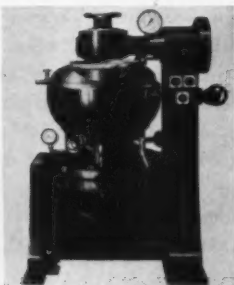
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MODEL 110-A



MODEL 111-A

Included in the complete line of Hansella Cookers

are the famous Model 110-A caramel type batch cooker for toffee, taffy or caramel, and the Universal Batch Cooker Model 111-A, with or without vacuum for hard candy, caramel, jelly or jams.

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No wonder leading candy plants
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HI-LUSTRE BELTS are the proper
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The Art of Processing Candies in Revolving Pans

by LESTER L. BETTES
Imperial Candy Company

THERE are several types of candies produced in revolving pans; such as soft finish, hard finish, pearled, creamed for crystalizing, chocolate and cordial. We shall deal here with some of the more popular types, namely soft finish, pearled and creamed.

Equipment

First, we must have the proper pan set-up, preferably in units of six, driven with a $7\frac{1}{2}$ H.P. Varidrive Synchro-gear Motor with a speed range of two to one, gear ratio of 11.9, 1800 R.P.M. connected with drive shaft anchored to floor. Each pan is driven by chain from 3" pulley on the drive shaft 5" clutch pulley attached to each pan which will give a variable speed to the pans of 14 R.P.M. Minimum to 28 R.P.M. Maximum. These speed ranges are essential to the economical manufacture of several types of candies to be produced at different seasons of the year; the small starch Gum Jelly Easter Eggs require a fast speed of the pans while the larger grained marsh-mallow eggs take the slower speed.

The most popular pan size is 38" with a 24" opening, copper steam coiled serviced with approximately 80 pound steam pressure feeding into a trap at the exhaust end.

Special Preparation of Equipment

Preparing of Pans or roughing inner surface prior to grossing or sugar sanding of soft finish candies is necessary. This is done by cooking, twenty-five pounds sugar, five pounds corn syrup, (with enough water to dissolve sugar), to a hard crack. Using a quart size ladle,

while the pan is in motion, slowly pour this high-cooked syrup into pan, starting at back of pan continuing to draw the ladle toward you while pouring.

When hardened in pan, this high-cooked syrup will give the roughness that will prevent sliding of the candies in the pan, and cause them to roll. After several days use of the pans for grossing, there will be built up a considerable amount of sugar coating in the pan, which may be removed by applying steam through the coils of pan and scraped out with a dull scraper that will not damage nor mar the surface. This pan scrap may be salvaged for use in production of starch jelly centers, prime coat on Boston Baked Beans, and French Burnt Peanuts.

Sugar Sanding of Starch Gum Jellies, such as Jelly Beans, Easter Jelly Eggs, and other shapes of starch jellies, is necessary soon after these centers have been removed from their starch castings. This is done to keep these tender jellies from sticking together but it also puts a protective crust on them that helps to maintain their shape during the grossing process. To properly do this sugar sanding operation, place thirty pounds medium-fine granulated sugar into pan, start pan and pour forty-eight ounces of water at room temperature into sugar. Start immediately putting in the centers, a tray at a time, until pan has been filled with about 340 pounds of centers. (If centers are to be fruit flavored during grossing process, 12 ounces of citric acid should be dissolved in the forty-eight ounces of water, before being added to the sanding sugar, but if the centers are flavored with vanilla, anise, cinnamon, and the like, omit the acid. Let them turn in pan for several minutes or until most

of the original thirty pounds of sugar has been absorbed and adhered on the surface of the jellies. As they begin to get moist, add more sugar, five to six pounds at a time as they continue to sweat until an additional twenty pounds has been added. This will be after about twelve to fifteen minutes time. Then they are ready to take from pan. Using a four mesh round screen sieve start taking out while pan still runs and place in shallow trays. Add small amounts of sugar to front of pan as you are taking them out as this keeps them dry and from matting in the trays. This entire sanding operation for one pan will use sixty pounds of sugar. Allow these sanded centers to dry and crust over-night before grossing.

Grossing of Soft Finish Pan Goods. This applies to small cream centers, marshmallows, licorice buttons, Boston Baked Spanish Peanuts, as well as the above mentioned starch jellies, except that a coarser sugar would be used on the first charge of marshmallow centers to fill the small holes on their surface caused from bubbles in the making of these centers and except for the prime coating given to Boston Baked Spanish Peanuts, explained later.

Charging Syrups Used In Production of Soft Finished Pan Goods

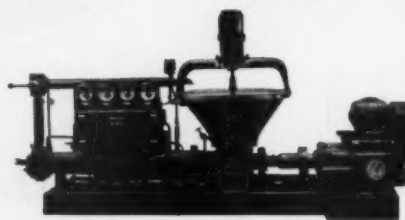
(Corn syrup solution apply when using dextrose corn sugar). Place in steam kettle one-hundred-twenty pounds corn syrup, add two gallons water, heat and stir well until warm and registers 36° Baume. It is then ready to be used as a charging syrup. (Sugar syrup solution apply when using granulated sugar). Fifty pounds sugar, water to dissolve and cook to 30° Baume, shut-off steam and add one-hundred pounds of corn syrup. Now place one-hundred-ten pounds of sugar-sanded starch jellies in each pan and charge each pan as you put them into motion with sixty-four ounces of solution. There will be enough sugar left on the centers from their sanding so you need not add sugar while applying this first change.

By the time you have charged the six pans, the first one should be thoroughly and uniformly wet, then start applying sugar each time as the centers return to a semi-wet condition until they have absorbed all the sugar the first charge will hold, and dry. Then repeat the charge using this time, sixty ounces of solution with color added as desired. Sprinkle with granulated sugar this time as the solution is being added and dry down as before. Repeat the charge the third time, adding both color and flavor to forty-eight ounces of solution, or distribute flavor over goods in pan after charging, dry as before. For the fourth and last charge of solution use thirty-six ounces with color added, this time apply only three pounds of granulated sugar to each pan. As soon as the granulated sugar has been absorbed start applying 4X powdered sugar and continue using until the candies will not absorb any more. Using a four mesh screen sieve remove candies from pans, place in shallow trays to dry for several days before finishing and polishing.

Corn Syrup

Use of Dextrose Corn Sugar in production of soft finish pan goods is practical and the quality of finished product is equal to goods made from cane or beet sugar. From a cost stand-point it is even preferable. Manufacturers of dextrose corn sugar can and have produced

Fully Automatic Continuous



TEMPERING MACHINE

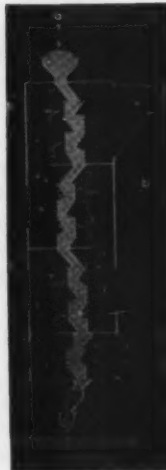
Absolute Accuracy in Tempering Regardless of Initial Chocolate Temperature

Uniformly tempers chocolate, plain or with a mixture of nuts or granules, direct from storage tank to enrober or moulding machine.

Capacities from 440 to 6000 lbs. per hour

Chocolate Moulding:
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JOHN SHEFFMAN, Inc.
152 W. 42nd St.
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Schematic
Reproduction
(a) bean entry
(b) heating units
(c) bean discharge
(d) air entry
(e) cooling zone
(f) air exit

PROBAT Continuous Roaster

**Cocoa Beans
Peanuts
Almonds, etc.**

continuously and automatically roasted and cooled.

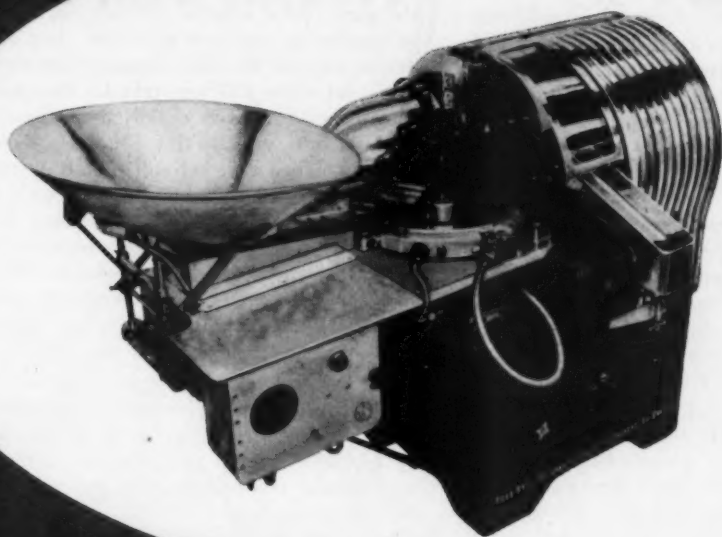
1. **Guaranteed uniformity**
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Available in 3 sizes: 600, 1200 and 2200 lbs. per hour.

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152 W. 42nd St.

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Pre-formed
Candy Pieces

AUTOMATICALLY!

2- WRAP

Lollipops

SEMI-AUTOMATICALLY!

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handles pre-formed pieces in a wide range of sizes at speeds up to 200 per minute. It twists both ends or can be adapted for special crimp, fringe, sachet or carrot wrapping.

NEW Return Flow Automatic Feed assures uninterrupted operation at higher speeds, increases production, reduces wrapping costs. *One* operator can easily tend two or more machines.

A "No Candy—No Paper" and "No Paper—No Candy" electric cut-out device prevents paper and candy waste, guarantees economical operation. Plastic and aluminum guards protect operator, keep out dust and dirt.

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West Coast Sales & Service Headquarters, 1258 Mission Street, San Francisco 3, California
Southwest Sales & Service Headquarters, 2106 Irving Boulevard, Dallas 7, Texas

these sugars in uniform granulation which is necessary for panning purposes. If you are using or plan to use corn sugar, then it should only be applied to the undercoating or with the first two charges of grossing syrup as instructed in previous paragraph. The reason for not using corn sugar on the last two charges is simply that no way has been found to obtain a polish on the finished product. However, many thousand pounds of this type of pan goods have been produced with the following ingredient percentages in the finished product:

Granulated Sugar	35%	Dextrose Corn Sugar	29%
Corn Syrup	31%	Thin Boiling Starch	5%

Boston Baked Spanish Peanuts. Prime Coat. Place in six clean pans four-hundred pounds Spanish Peanuts, fresh from the peanut roaster and while still hot apply prime coat as follows: Melt in steam kettle one-hundred-seventy-five pounds pan scrap and enough water to dissolve and cook to 238° Fahrenheit (sea level). Turn steam into pan coils, start pans in motion and apply approximately forty ounces of syrup to each pan of peanuts. Should this syrup scrap solution dry fast and shell off, it indicates that a few pounds of corn syrup must be added to your syrup or until the solution adheres to the peanuts. On the other hand, if the solution is slow drying and gummy the percentage of corn syrup is too great, then granulated sugar must be added. After this has been determined turn the steam on the kettle of syrup and let it slowly boil while you continue to charge the peanuts. When the syrup reaches 260° Fahrenheit it should have been 80% used. Shut off steam on both kettle and pan coils and continue to use balance of syrup. When finished the peanuts should appear pearled. Take from pans and when cooled off they are ready to be grossed by the soft finish process as described. Color with orange brown to suit, and flavor with vanilla. Adjust size and number of grossing solution charges, dependent upon the size you want for the finished product.

Pearled Type Candies such as pearled almonds are popular in party mixes or as a straight seller in bulk in the higher class candy stores. Popular colors for pearled almonds are reddish brown, or brownish orange. Color used in the entire syrup solution, also in the gum arabic charge just before taking from pans. Formula:

200 lbs.	36/40 Count Nonpareil Almonds
300 lbs.	Sugar
56 lbs.	Corn Syrup
3 lbs.	Gum Arabic dissolved in 5 qts. water (color to suit)
8 oz.	Vanilla
6 oz.	Cinnamon Oil

Mix Together	2 qts. Orange Candy Glaze—4# cut
	2 qts. White Candy Glaze—4# cut
	1½ qts. Candy Glaze Thinner, or alcohol

Light roast almonds and place in six clean pans while hot. Turn steam into pan coils, start pans in motion and charge with twenty-four ounces sugar corn syrup solution, to each pan, which has been prepared by cooking together all of the three-hundred pounds of sugar with forty pounds of the corn syrup. This must be cooked to 240° Fahrenheit (sea level). When almonds become well covered, add eight pounds more corn syrup and gradually let syrup solution boil while still charging each pan

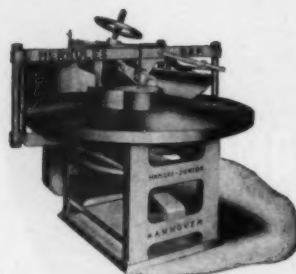
with twenty-four ounce charges, until syrup has reached 260° Fahrenheit. Shut off steam on both pan coils and syrup solution, add last eight pounds of corn syrup, stirring in well and pearl the almonds to suit. When the entire batch of syrup has been used, shut off pans. Divide the gum arabic solution into six equal parts and apply to candies in pan, one at a time. Just as soon as gum arabic solution has been equally distributed on the candies, and while still wet, transfer the candies from pan into screened trays as rapidly as possible. After candies have set in trays eight to ten minutes, they must be loosened up. When dry, but still slightly warm, use one pan for the purpose of glazing. Put candies in pan and apply twenty-nine fluid ounces of candy glaze. As soon as glaze is well distributed on candies, transfer from pan into screens, again as quickly as possible. When nearly dry, loosen candies by shaking. When thoroughly dry they are ready for packing. This entire operation exclusive of the roasting will take two hours.

Pearled Spanish and Virginia Peanuts. These are produced by the same procedure as used for almonds, except that a larger percentage of pan scrap may be used. In fact 100% scrap may be used if the lighter colors are used for this purpose. Any red and black scrap may be used in production of black gum jelly centers. Vanilla flavor is the most popular for the pearled peanuts, added to the syrup after steam has been shut off. With the Spanish type peanut, salt sprinkled on during grossing process makes a desirable and tasty flavor. These made in Red or Brown colors are popular in the type of candies known as Bridge Mix.

Almonds Creamed for Crystalizing. Take seventy-five

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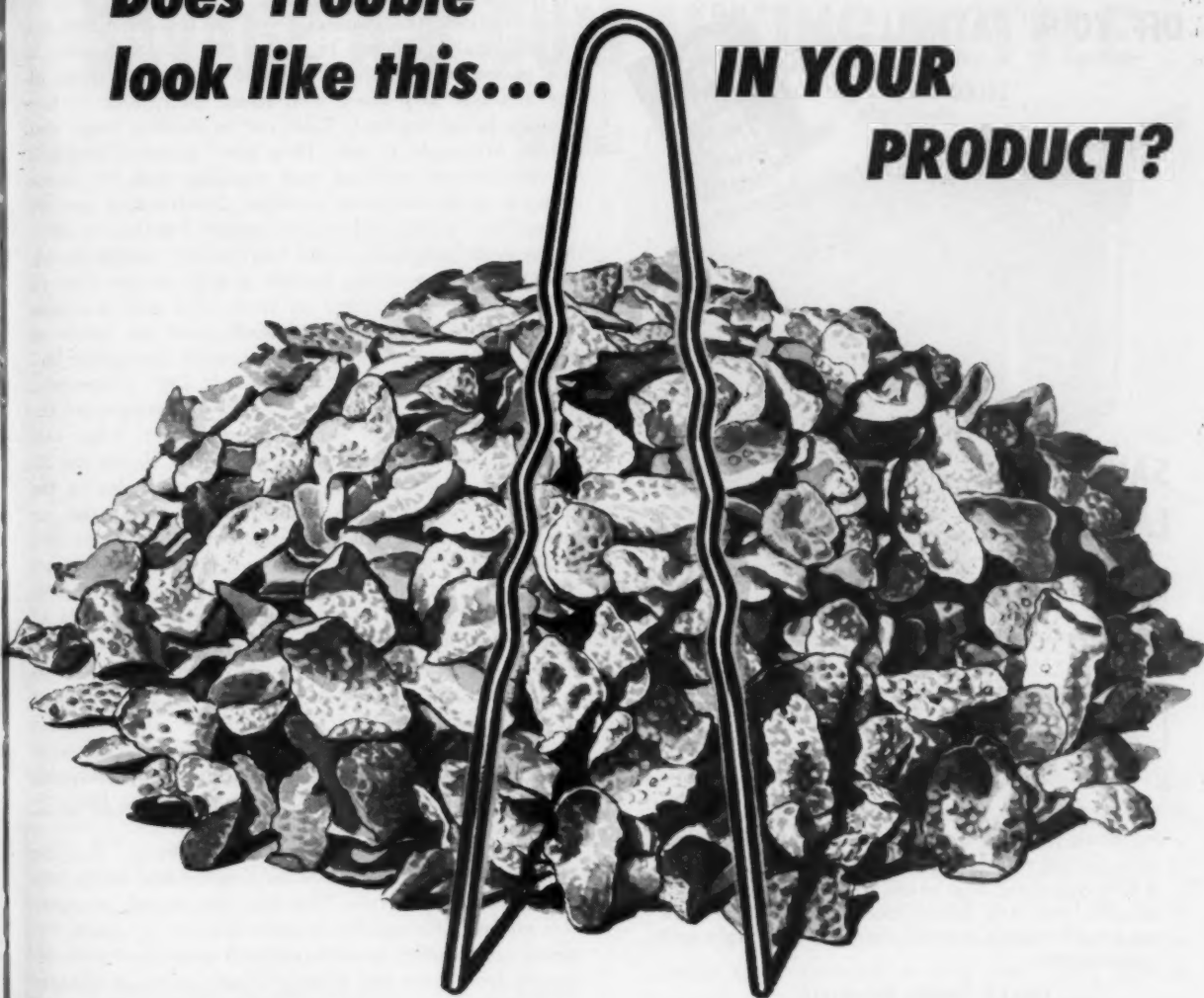
For detailed information apply to

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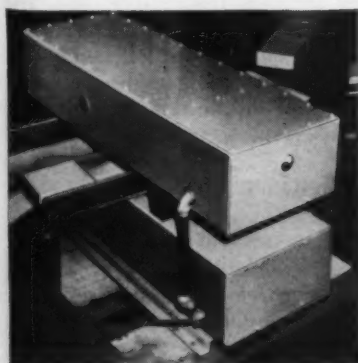
Specialized Machinery Works,
Lister Damm 19, HANNOVER, Germany

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pounds Raw Selected California Drake Almonds, place in ribbed pan. Dissolve one and one-fourth pounds gum arabic in twenty-four ounces water. Use this entire amount of gum arabic solution to charge the almonds, using a few pounds of granulated sugar to fill in the valleys of the almonds. Dry down with wheat flour, four to five pounds being required. Take out in shallow trays and let set over-night to dry. Then place gummed almonds in clean heated pan and start charging with ten ounce charges of the following formula: One-hundred pounds sugar, Six Pounds Nulomoline, cooked together to 239° Fahrenheit (sea level), add two ounces vanilla flavor. Should charging syrup become grainy on the side of your cooking kettle, turn on steam and with a couple of ten ounce ladles of water wash down the inside of kettle. As soon as the syrup has come to a complete boil the temperature should still remain at 239° Fahrenheit. Continue to use, increasing the size of charges as the amount of candies in pan becomes greater. After half of the first kettle of syrup has been used, divide the almonds into two pans. Continue to charge, reducing the amount according to the quantity of candies in pan, or just enough to make them thoroughly wet. After the first kettle has been applied, continue to cook same size batches using same formula and to the same temperature until six-hundred pounds of sugar and thirty-six pounds of Nulomoline have been used, and of course, they have been by this time divided up so you now have six pans.

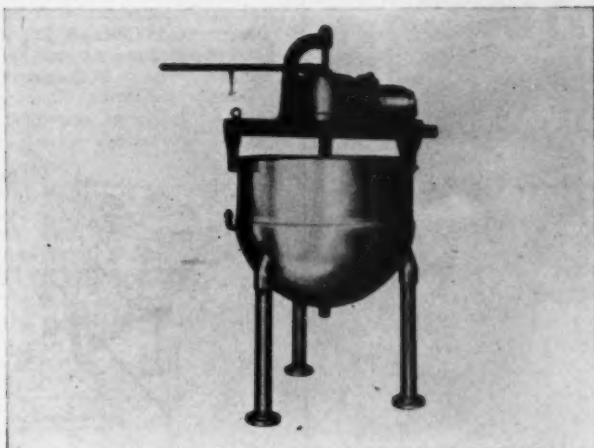
On the last charge of syrup, reduce with equal amount of water. This will tend to make the finished creamed almonds more smooth and eliminate the grained sugar dust. This entire operation of creaming the almonds will take one man four hours. Caution should be taken to keep each pan with equal heat (around 100°) during the application of the first five kettles of syrup. Shutting off steam on the last kettle will bring the heat in the pan down about 10 degrees. This last 106 pounds of syrup will go on fairly rapidly as there are now six pans and about one-hundred pounds to each pan. Now take almonds from pans and place in clean paper lined trays or directly into your crystal screens. After setting until creamed almonds cool to room temperature, they are ready for crystalizing. Entirely submerge almonds into 33½° Baume crystal syrup and leave for fourteen hours. Then drain syrup from almonds and place them in clean shallow trays until dry. They should have a nice crystal sparkle, and be creamy enough so as to be eaten very readily.

Cream Filberts or Creamed Walnut Quarters may be produced in the same manner. A suggestion for the cream walnuts is to color the last kettle of syrup with brown color and flavor maple. When crystalized they acquire white and brown spots or marble effect, which is somewhat of a novelty and very saleable in stores that require weekly bulk specials.

My time has limited me to the discussion of the above mentioned pan items which I believe the average layman with some pan knowledge will have no trouble to follow. There are other processes such as the polishing of the various pan types, and the hard finish types such as Jordan Almonds, Smooth and Pearled Caraway Seed, Coriander Seed, for starting of Jaw Breakers, Non-Pareil Seeds, and pan chocolate covered types, and polish for same that we might discuss at some later date. *The End*

SAVAGE A-B GUM MIXING KETTLE

Model C-3



The Model C-3 Savage A-B Gum Mixing Kettle is a perfect cooker and mixer for Gum Drops and other Gum Candies. It will also cook and mix other batches that are susceptible to being drawn off or pumped.

The cut shows a Stainless Steel Steam Jacketed Kettle mounted on carbon steel legs. Stainless Kettles can be constructed for 100 lbs., 125 lbs. or 150 lbs. working steam pressure. Copper Steam Jacketed Kettle can be supplied if preferred for 100 lbs., 110 lbs. or 125 lbs. working steam pressure, but with band iron stand.

It is of substantial construction and features direct motor drive with gear head motor. A double action agitator is provided, made of heavy cast

iron galvanized and fitted with torsion spring brass scrapers to prevent scorching of batches. The bevel gears are heavy cast iron for long life and properly guarded. A lever attachment is provided for raising agitator to facilitate quick withdrawal of batch and cleaning. The square tubular steel vertical driving shaft with bronze bushings eliminates binding when raising agitator. A special plug cut-off is provided and this eliminates uncooked product in the draw-off nipple.

Fabricated Stainless Steel Agitator can be supplied if desired; also agitator constructed so that a stem thermometer can be used.

Manufactured in sizes from 30 gallon to 250 gallon capacity.

SAVAGE BROS. CO.

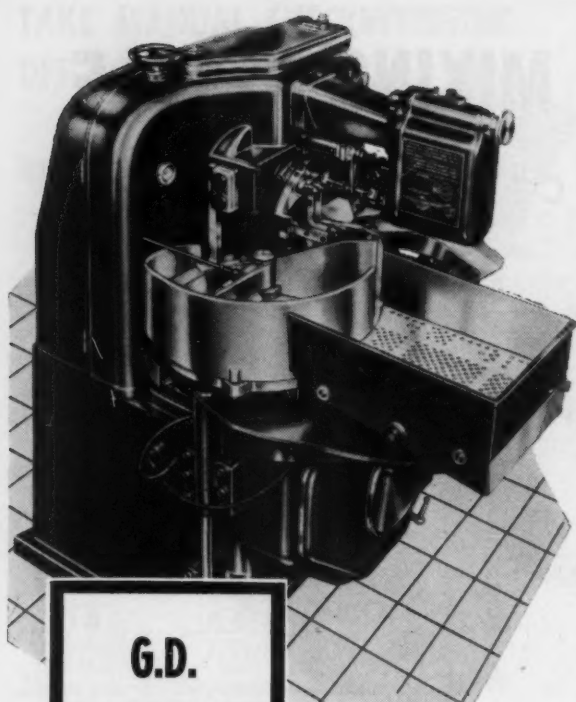
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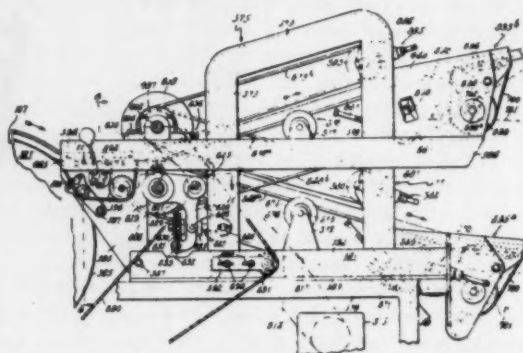
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Exclusive Representative for G.D. of Bologna, Italy
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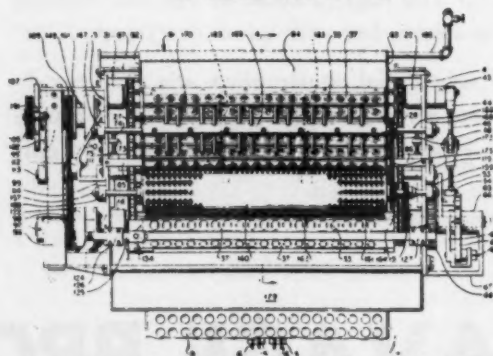
Patents

2,640,446
CANDYMAKING APPARATUS
Robert F. Morrison, Oak Park, Ill., assignor to Mars, Incorporated, Chicago, Ill., a corporation of Delaware
Application August 11, 1947, Serial No. 768,025
3 Claims. (Cl. 107—22)



1. A conveyor for supporting an elongated sheet of dough, rotary knives disposed above and spaced across the conveyor for dividing the dough into strips, a rotatable cutting drum directly below the rotary knives and extending across the conveyor, the knives cooperating with the cutting drum to form bites therebetween, dough strip supporting belts extending in a forward direction with respect to the conveyor from beneath the spaces between the knives and commencing substantially directly below the axis of the rotary knives, there being a separate belt for each space so that there are a plurality of dough strip supporting belts spaced across the conveyor, the belts extending alternately to two different levels.

2,642,010
DEVICE FOR DEPOSITING CENTERS IN CANDY PIECES
Clyde R. Zimmer, Chicago, Ill., assignor to E. J. Brach & Sons, Chicago, Ill., a corporation of Illinois
Application October 20, 1950, Serial No. 191,244
11 Claims. (Cl. 107—1)



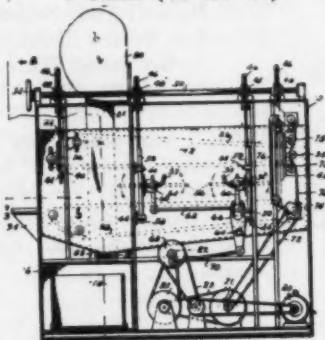
1. A machine for simultaneously depositing in a continuous manner a plurality of centers for candy pieces into a plurality of candy mold cavities provided in a continuously passing candy mold comprising a hopper for carrying a mass of said centers, center-receiving means disposed in supporting relationship to said mass of centers in

the hopper, means for intermittently moving said center-receiving means through said hopper in an upwardly inclined direction, said center-receiving means being endless and being provided with a plurality of recesses for the reception of centers in said recesses during movement through the hopper, means carried upon said center-receiving means for obstructing egress of said centers from the recesses, said obstructing means being movable to and from obstructing position, means adjacent the path of travel of said center-receiving means for moving the obstructing means to obstructing position, means for inverting said center-receiving means after said recesses are closed, means for substantially aligning said recesses in inverted position with respective mold cavities provided in a mold continuously moving beneath said inverted center-receiving means, and means adjacent the path of travel of the inverted center-receiving means for removing the obstruction from said recesses while the recesses and cavities are in substantial alignment and while said center-receiving means moves to deposit centers from the recesses into the cavities.

2,640,003

METHOD OF CLEANING CHOCOLATE MOLDS

Axel Christian Steenberg, Copenhagen, Denmark
Application July 18, 1947, Serial No. 761,936
In Germany July 22, 1939
Section 1, Public Law 690, August 8, 1946
Patent expires July 22, 1959
1 Claim. (Cl. 134-21)



1-2

A method of cleaning chocolate moulds comprising projecting jets of dry steam against the surface of the said moulds in a confined space and simultaneously removing the steam used together with the impurities embodied therein from the space surrounding the moulds by suction.

169,454

CHOCOLATE CONFECTION

Richard M. Palmer, Wyomissing, Pa.
Application December 30, 1952, Serial No. 22,922
Term of patent 14 years
(Cl. D82-2)

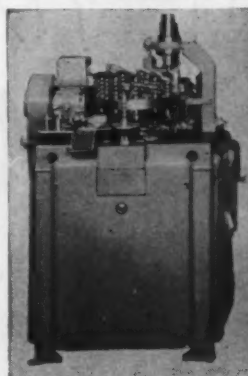
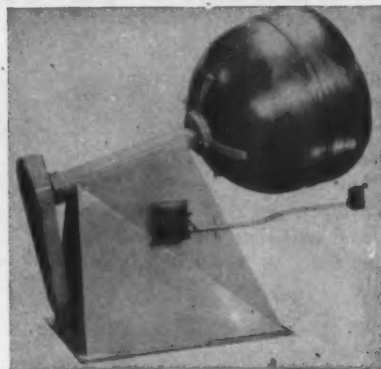


The ornamental design for a chocolate confection, as shown.

LATINI LABOR-SAVERS

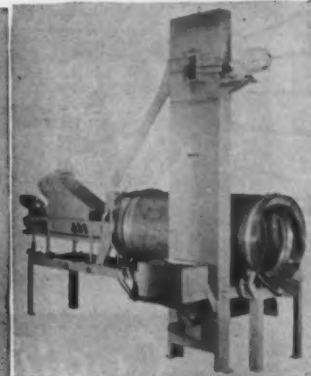
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Unusual bowl shape permits 10% to 15% larger charges, alone paying for pan in a short time. Sanitary and sturdily built for a long silent life.



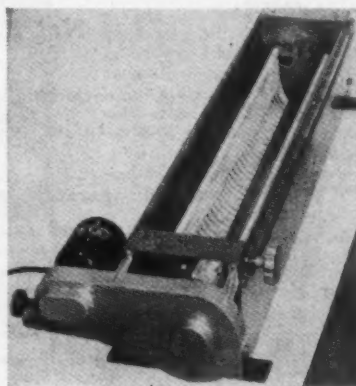
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Saves labor—eliminates from 2 to 6 strokes per enrober. Versatile — variable speed drive, elevation control and 3 sets of decorating belts make a wide variety of markings.

John Sheffman, Inc.

152 W. 42nd St., New York 36, N. Y.

LETTERS to the MC Editors

Subject: Chocolate Temper
Reference: January, July & October
Issues

Dear Sir:

The difference between Koch and Whymper as to whether or not stirred chocolate can, under factory conditions, be "supercooled" must de-

pend largely upon the meaning attached to this word.

In a narrow scientific sense supercooling of liquid occurs when the temperature falls below that at which a change of state can occur: without that change actually taking place even to the smallest extent.

If this is accepted Whymper is correct in stating that supercooling does not occur in factory practice, where there is always a degree of seeding, leading to some crystallisation of fat. In the laboratory, on the other hand, supercooling of stirred chocolate can readily be achieved.

The meaning which Koch attaches to the word is rather different and would, I think, be better expressed as a "crystallisation lag". This implies that the extent of fat crystallisation has not proceeded as far as possible for the prevailing temperature conditions. We are all familiar with this phenomenon; in fact, the whole technique of enrober operation is tied up with this crystallisation lag and attempts to maintain it as constant as possible.

Yours Faithfully
D. W. Grover
Head of Food School
East Sydney Technical College
Forbes Street, Darlinghurst
January 21, 1953

Could you please give me some information regarding hand-rolled and hand-dipped chocolate creams, chewy nougats and chocolate covered caramels which split after being coated.

Alabama

Reply: The trouble you have with the chocolate splitting may be caused by the temperature differential between the centers and the coating. If centers are too cold when coated, the chocolate will split. Centers should be "tempered" so that they are at room temperature when coated. The temperature of the dipping room should be about 65°F. and relative humidity should be low, about 55%.

Letter to Editor

"I am writing my honest comments on the many candy shops I visited in California, Oregon, Washington, and British Columbia. Most of the shops are sorely in need of help. Someone should show them the way to make real candies. I believe I can help many retail manufacturers by being frank.

"I have made a survey of the candy business in the Pacific Northwest. After talking to most of the candy manufacturers and learning of their problems, I have concluded that the lack of creative ability and the inability to make old, staple items outstanding, comprise their short-comings.



Cooling Tunnel Belts and Plaques

- ★ Reflecto Cooling Tunnel Belting and Plaques—Single Texture, Double Texture, Double Coated
- ★ Crack-less Glazed Enrober Belting
- ★ White Glazed Enrober Belting Double Texture—Single Texture; Double Coated
- ★ Caramel Cutter Boards and Belts
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- ★ Feed Belts (Endless—Treated or Untreated)
- ★ Packing Table Belting (Treated and Untreated)
- ★ Innerwoven Conveyor Belting
- ★ Batch Roller Belts (Patented)
- ★ Wire Belting
- ★ Vee Belts
- ★ Hose (Air; Water; Steam; Oil; Creamery)

A Coated Fabric—

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- A smooth bright finish given to bottoms
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BURRELL BELTING CO.

"If it's Belting, we have it"
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"The shops would be out of business if it were not for the demand for handrolls. Judging from the appearance of most of the handrolls, I am afraid for the future for the Northwest manufacturing retailer. The flavor and price are not right.

"Handrolls originated on the Pacific Coast some years ago, and at that time consumers had a fairly decent buy. Now, handrolls have sunk in a rut. This was admitted by the shops crying because of lack of business. I openly criticize their methods in forcing the public to buy such merchandise. No wonder business is slow. Those who can see the handwriting on the wall must plan to show the candy buying public better made candies. The use of better flavors and more attractive boxes will be necessary.

"Candies all look alike now. Some candies were priced at 75c, and others at \$1.00 and \$1.25 per pound. Boxed candies were priced at \$2.00 per pound. These, regardless of price, seemed to be very much alike.

"Why don't the candy people of the Northwest bestir themselves and break up the monotonous appearance of their candies? It doesn't take too much effort. I found most of the candy men had plenty of time to worry about business. If they could only see their line of candies as others do, they would make a sincere effort to give their customers something different which would also aid in building up the business.

"Everyone knows what a caramel, a nougat, or a hand roll looks like. Put some effort into your work. Change your lines by making some real shapes. Develop new designs and be creative! Use good materials. Figure costs and find out how much it will cost to make the best. I saw how cheaply candy can be made, improve yours and you will find the customers will compliment you. Just because you are sold on your own candies is no reason for sales. Your customers are the proof and you should lead the way. By doing this, you will help the Pacific Northwest become aware of really fine candies.

"This letter does justice to those that I have personally met. I hope that by my efforts, a few of the manufacturing retailers may be benefited. Let's make an effort in 1951 to put new life into the candies. The time is now, not next week, or next year! To satisfy yourselves, just look around in your own section. See how many others make the same mistake by continually cheapening their lines.

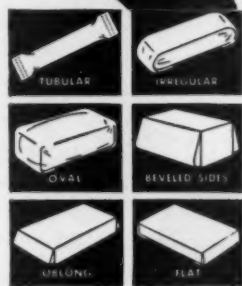
"Write to your chocolate manu-



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facturer and ask the salesmen for new ideas. Run down sources for new ideas. Dress up your caramels, creams, nougats, jellies, and home made. Make them so good that your shop must be the finest in the locality.

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dies, packages, and flavors. Freshness should be thought about. I believe your problems can be solved.

"I have many outstanding formulas which can help any manufacturer. I prefer to help the manufacturing retailer and enclose a recipe to show how easy it is to make real fine candy."

LOAF FUDGE

- 9 lbs. Corn syrup
- 8 lbs. granulated sugar
- 1 lb. invert sugar
- 3 ozs. salt
- 2½ gals. Cream
- 20 lbs. bonbon fondant
- 3 ozs. good Vanilla Flavor
- 6 lbs. raw, whole almonds

Place sugar, invert sugar, corn syrup in the kettle. Add salt. Add 3 qts. of the cream. Bring to the boil and add the balance of the cream, slowly. Then cook to a firm ball. Add the bonbon fondant and the Vanilla and thoroughly mix. Add the almonds. Pour into wax-paper lined frames, 1½ inches deep. Let stand overnight. Then cut into bar shaped pieces like nougat. Cut as sold, or cut and let dry for two hours and wrap in cellose.

PENUCHE

Use above formula with the following modifications:

Use 9 lbs brown Golden C sugar instead of the white sugar. Cook in same manner. Flavor with ½ teaspoonful of good maple. Omit the almonds. Add 6 lbs. pecan pieces or 6 lbs. walnut pieces.

CHOCOLATE

Use the Loaf Fudge formula with 5 lbs. of chocolate liquor which is added in chip form just before finishing the batch. When the firm ball stage has been reached, add the raw almonds. Note: The secret of the Vanilla and Chocolate Fudge is in adding the almonds raw to the batch. *Editor's Note: The author of this letter is a well qualified candy man. He has enjoyed wide experience and when his painstaking letter was received, 12 pages, we decided to pass it on to you. We took the liberty of publishing the author's initials.*

Perhaps, you will not agree with the suggestions and criticism offered in the letter. Let us have your comments, not only on the candies made in the Northwest, but also from other sections of the country. If there are some questions you would like to ask the author, we shall be glad to forward them.

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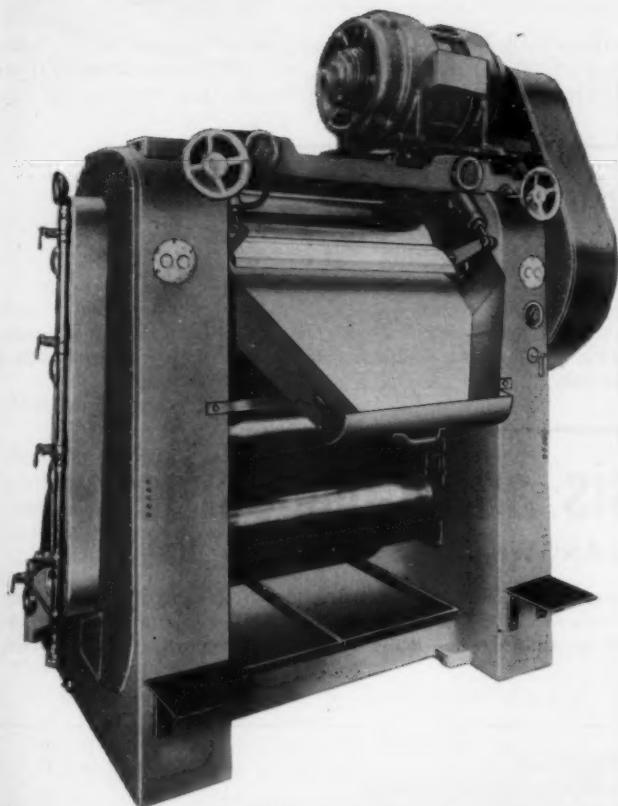
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*Reg. U.S. Pat. Off.



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for July, 1953

Page 41

***Just
Published***

How to Salvage Scrap Candy

by **WESLEY H. CHILDS**

This booklet is a complete revision of the authors work "Modern Methods of Candy Scrap Recovery" published in 1943. A considerable amount of information has been collected since that time on methods and techniques of salvaging scrap candy. This booklet covers all types of candy, and gives many practical and economical ways of converting scrap candy into a useful form for re-use.

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Here is a textbook where the reader can learn the basic fundamentals of candy making, the "how" and "why" of the various operations in non-technical terms. Particular attention is given to the function of raw materials, and why each is included in a formula.

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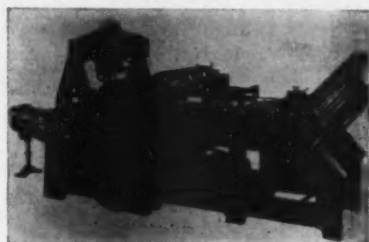
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Over-Under Scales, of the high speed, end tower type have been introduced in a new line. Capacities range from three to fifty pounds. Scales of this type are also available in capacity ranges up to 150 pounds.

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for July, 1953



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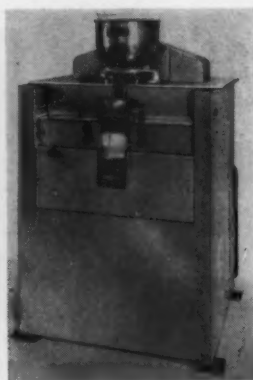


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New, Low-capacity, Plate type Heat Exchanger has been announced as Model SI-30. It can be used for the continuous heating and/or cooling of any liquid food product. The temperature limit is quite low for candy processing, as the heating medium cannot go over about 180° F. However, it might find use as a pre-heating unit for material subject to further processing in batch or continuous equipment. For further information write:

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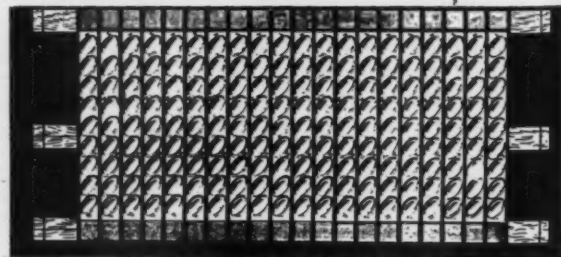
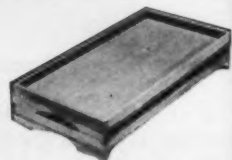
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JULY

1953

Supply Field News

Ambrosia Chocolate Co. has created an "ambassador-at-large," and have called him **Amby**. This is a drawing of a very elegant cocoa bean, dressed regally in ermine, crowned, and with a long golden scepter. At the top of the scepter is a flat dish filled with red, blue and green (!) cocoa nibs. The trade will undoubtedly be hearing a great deal from this charming character.

Peerless Confectionery Equipment Company has acquired the exclusive distribution rights of the candy manufacturing and wrapping equipment of the Otto Haensel Jr. Company. All parts and services will be available in this country.

Sunkist Growers exhibited results of their extensive research in the use of citrus pectin in candies at the NCA Convention. Two distinctively new pieces were shown, one made with whole oranges, crushed or chopped, combined with nuts, containing citrus fruit pectin and frappe and the piece rolled in shredded cocoanut. The other an identical piece using chopped whole lemons to replace the oranges.

Examples were also shown of flavor development of flavor including a ginger jelly, a butter and rum jelly and a butterscotch jelly.

Durkee Famous Foods has been granted a patent covering their Stayfresh Coconut which possesses superior freshness, flavor and color properties. The new patented coconut product utilizes sorbitol as an humectant to stabilize the moisture of the coconut.



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Here's the machine that will save you much time and labor in kneading and mixing batches—the C&M Automatic Batch Kneader and Mixer.

After the candy batch has left the vacuum cooker or cooking kettle and the flavor and color have been added, it is placed in the C&M Automatic Batch Kneader and Mixer. Here, any batch from 30 to 125 pounds is thoroughly kneaded and mixed automatically. At the same time, the water-cooled rotary table, slab and kneading roller cool the batch more rapidly. Only 1½ to 3 minutes time required for a complete batch.

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THE OLD . . . with the former open kettle method, excess water (about 60 lbs. per 100 lbs. of finished confection) was evaporated by boiling. The starch jelly had to be dried in hot rooms for several days after molding. A large amount of floor space was required with slow production.



THE NEW . . . floor space savings of 65% are realized by cooking in seconds with VOTATOR Heat-exchange Apparatus. About \$45 per day is saved in fuel, starch tray inventory is reduced 60 to 75%, maintenance and handling costs are cut with continuous processing.



SEND FOR BOOKLET—New booklet containing text of three papers on Cooking Starch Jellies Continuously. Write for free copy today. The Girdler Corporation, Votator Division, Louisville 1, Kentucky. District offices: New York, Atlanta, Chicago, San Francisco.

New process improves jelly quality

VOTATOR* Continuous Processing Apparatus cooks automatically in seconds, eliminates excess water

CONTINUOUS COOKING of starch jellies has revolutionized production at Charms Company, improving clarity and uniformity of the product, eliminating caramelization and the usual hard skin, and drastically cutting costs. The process was developed by engineers of The Girdler Corporation, with the technical assistance of National Starch Products, Inc.

VOTATOR Heat-transfer Apparatus cooks the starch *in seconds*, with exactly the right amount of moisture required for the finished jelly. The continuous, automatic system assures uniformity.

Girdler's research and development department is well equipped to assist you in applying continuous processing to your production. Call on Girdler for complete process design, engineering, and construction service.

*VOTATOR—Trade Mark Reg. U.S. Pat. Off.

The **GIRDLER** Corporation

VOTATOR DIVISION

THE MANUFACTURING CONFECTIONER

QUALITY CONTROL

(Continued from page 22)

We strongly recommend the installation of a laboratory (or at least certain pieces of equipment), and the hiring of a chemist. If you cannot see your way clear to immediate adoption of this plan, you should begin right now, in a limited way, and see what it can do for you. We are sure that you will then want to increase your facilities.

Begin with a sound inspection system. Above all, do not combine the responsibility for inspection and production. If these responsibilities are combined, it is not necessary to comment on the failure of your inspection system when deliveries are running behind schedule. The decision to reject a large batch of candy will cost money. This decision will take courage, and the individual responsible for quality control must have the authority to execute his decisions.

At our meeting, we also discussed another important type of quality control being used more and more by many industries, but by only a few candy manufacturers. This is statistical quality control. It is a fascinating subject and produces incredibly accurate results when properly applied.

The success of statistical quality control stems from the fact that the more you know about something the better the decisions you can make. Statistical quality control applies the same probability techniques which are used by insurance companies. The application of these special statistical tools in quality control, enables the manufacturer to get a maximum of information about his operations—from receiving inspection to the shipping room—with a minimum of effort.

One of the amazing advantages of statistical quality control is that in many cases, trouble can be predicted and, consequently, necessary decisions can be made to stop or change an operation before trouble occurs. With statistical methods you can determine how good a job a process or machine can do. The usual technique is then to determine how good a job it does, and work towards the necessary improvements. You can also, with a minimum of effort, determine the ability of your various raw material suppliers to control their products, and in like manner, you can know precisely the quality level of your own products.

Much has been written in various technical and trade journals on this subject. One of the most interesting points for the buyer is that these statistical tools offer a means for certifying the quality of a product, thereby eliminating duplication in inspection between seller and buyer.

This system of certified quality is in practice in a number of manufacturing organizations today. The Ford Motor Company has developed their quality level certification agreement which is issued to many of their suppliers, and in effect, becomes part of the purchase order. Once a complete understanding is established between Ford and their supplier regarding quality specifications, the use of control charts and acceptance sampling tables based on an inspection of a percentage of production, becomes the basis for approval of all deliveries from that supplier.

Several candy manufacturers have had good success in developing a very exact control of candy bar and pack-

age weights, by using statistical quality control. This has resulted in tremendous cost savings for these companies.

Statistical quality control makes it possible for the manufacturer to speak with assurance about the stability and reliability of his manufacturing process, and the quality of the merchandise he ships.

Because of the complexity of this subject, I will not attempt to discuss it in detail (even if I were qualified to do so). For those of you who are interested, I can highly recommend a non-technical introductory book "Effective Management Through Probability Control", written by Robert Kirk Mueller and published by Funk and Wagnall's Company.

Manufacturer and Distributor Responsibilities

As we have developed our candy buying and merchandising program, we have reached some conclusions regarding the responsibilities of the manufacturer and the distributor. We recognize that this may be a controversial question, but I will take this opportunity to outline our present concept of this subject. Incidentally, Sears has by no means universally satisfied our requirements for a good distributor. We shall, however, continue to make every effort to constantly improve our performance.

RESPONSIBILITIES OF THE MANUFACTURER:

1. Adequate, sanitary building facilities.
2. Effective buying of satisfactory quality raw materials.
3. Modern, efficient production equipment and storage facilities.
4. Well trained, adequate and enthusiastic personnel.
5. Continuous personnel training program.
6. Correct packing for each item.
7. Constant scientific quality control—at least separate quality control responsibility from production responsibility.
8. A constant product research program, not only to improve quality of current items, but to develop new products which will sell in volume.
9. Well planned advance selling and merchandising program, particularly for holiday seasons. Where product requires it, an adequate national or local advertising program.
10. Quick service of supply—cooperate with distributors to obtain proper distribution points and suitable shipping facilities.
11. Progressive management which must constantly encourage product and methods improvement, particularly from a quality standpoint. Not only must sanitary rules and regulations be vigilantly enforced, but a high regard for wholesomeness in candy must be constantly evidenced and encouraged by every member of management.

RESPONSIBILITIES OF THE DISTRIBUTOR:

1. Intelligent buying.
2. Satisfactory rate of turnover—elimination of stale merchandise.
3. Proper storage of candy.
4. Effective point of sale displays, if distributor is a retailer. If a wholesaler, a sound distribution and merchandising program developed for all customers.

5. Aggressive merchandising—particularly to the holiday seasons.
6. Adequate advertising program and planned point of sale promotions.
7. Well trained, adequate and enthusiastic personnel.
8. Continuous personnel training program.
9. Courteous treatment of customers—proper wrapping of candy where necessary.
10. Work with manufacturer to develop proper distribution points and suitable shipping facilities.
11. Progressive management interest in improved and increased distribution of fine quality candies.

JOINT RESPONSIBILITIES OF BOTH MANUFACTURERS AND DISTRIBUTORS:

1. A constant interest in seeing that only wholesome candy, of which we are honestly proud, is manufactured and distributed to satisfy the candy appetite of America. The complete elimination of any substandard merchandise would do a great deal to restore the consumer's faith in all candy, and consequently, increase sales.
2. A cooperative effort on the part of the manufacturer to fully understand the problems of each type of distributor, and on the part of the distributor to understand the advantages and limitations of each manufacturer. This will require study and analysis of product, packaging and consumer demand. The end result will be more effective utilization of each type of distributor by the manufacturer, and of each type of manufacturer by the distributor.
3. A continuous and positive effort to stress the good-

ness and wholesomeness of candy. This kind of action will, to a great extent, overcome the negative effects of dental and diet-fad anti-candy propaganda. If our products are consistently wholesome and delicious, an overwhelming percentage of our population will continue to desire and to enjoy candy.

I believe that there are great hopes for the future of the candy industry. Steady improvement has been made in production methods. Production capacity of the industry seems limitless, and outstanding consumer values have been developed. Great strides have been made in packaging development. The industry is taking advantage of every possible method of distribution.

I am sure that scientific product improvement and quality control will make great strides in the next few years. All we have to do is to take advantage of the methods which have already been developed by many other industries. I am also certain that distributors will constantly strive to improve their methods, in an effort to deliver better and fresher candy to their customers.

The great increase in total population, 175,000,000 by 1960, and the immediate increase in the five to ten and ten to eighteen age groups within the next five years, all point towards greater candy consumption, provided that we all deliver;

Quality.

Controlled Uniformity.

Value to the consumer.

Let me emphasize that the consumer will measure extra value in IMPROVED QUALITY, as well as in lower price.

The End

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CONCENTRATED APPLE JUICE

Plants in Apple Regions From the Atlantic to the Pacific

SPEAS COMPANY, General Offices, Kansas City 1, Missouri

Corn Syrup in Hard Candy

by JOHN M. KRNO
Corn Products Sales Company

ANY attempt to trace the original use of corn syrup as an ingredient of hard candy would unquestionably take the seeker back to the early history of corn syrup itself. Certainly this use represents one of the first to which this product was put; and the fact that it still holds an important place in the hard candy formula speaks well for both the quality of this man-made ingredient and for its well known grain controlling properties.

Some of the earliest forms of hard candy were represented by those tablets concocted to camouflage certain bitter tasting remedies.

A factor favoring a high cook for candy was the staying properties developed by this treatment. As sweets in those early days were decidedly in the luxury class, the lasting qualities of the all-day sucker were much appreciated, especially by the youngsters.

Successful manufacture of hard goods in those times was beset by numerous hazards. Too little "doctor" brought about speedy graining, while too much caused the development of stickiness which was equally undesirable. The agents available for grain control were for the most part tricky in the extreme, while the chemical changes brought about in the batch by the factors of pH, heat and time were but dimly comprehended. In fact the whole process of inversion was barely beginning to be grasped by the practicing candymaker. Thus the production of hard candy remained much more of an art than a science, and we can freely admit that the "Rule of Thumb" was in truth the rule rather than the exception.

As a result the skillful operator was much in demand. His private collection of formulas with other tricks of handling, became his stock-in-trade, to be zealously guarded against possible discovery and exploitation by his rival; regardless of whether this rival happened to be his co-worker, his own boss, or the candymaker in some competing factory. Eventually these gems of knowledge would pass, from father to son, or from master to apprentice; but their final disposal was often of little consequence, as the formulae themselves were so limited in application as to be of value only under the particular conditions surrounding their formation. Fortunately these

practices are now a thing of the past, and no better proof could be found than our own meeting here today. But to return to our specific subject—hard candy.

The introduction of cream of tartar as a "doctor" represented a step in the right direction. This mildly acidic salt had the advantage of at least causing less drastic results than those produced by vinegar, or the similar organic acids used for this purpose. Even so, the degree of control possible with cream of tartar was still far short of perfection. It naturally produced widely divergent results whenever there was a change in either the analysis, or in the source, of the water supply. Care to avoid any variation in the volume of water used in the batch was a necessary precaution. Even when uniformity in these points was maintained, differences in the steam pressure—either indicated pressure (as shown by the gauge) or effective pressure (as controlled by the heating surface, condensation control, etc.) produced rather wide fluctuations in the amount of inversion.

With the advent of corn syrup, a tremendously expanded market, heretofore only envisioned by the candy manufacturer, became an actuality. This new and effective means of grain control, which had its origin in the already recognized need for such a substance, was immediately accepted by the candymaker and put to use. For years this market remained almost the sole outlet for corn syrup; and even today, as most of you know, your industry continues as a major consumer of this derivative of that highly important American farm crop—corn.


We can describe corn syrup as "tailor-make" for the candy industry, and this term is no mere catch phrase. The various specifications under which this product is supplied to you—that is its gravity, (shown as degrees on the Baume' scale,) its pH, color, age test D.E. or Dextrose equivalent and the candy test—were all set up after active discussions with capable candy production men. It was obvious that your industry could best be served if one type syrup,—capable of production by all the wet millers and of application to the widest range of confections, could be agreed upon. The standard 43 Baume' confectioners' corn syrup was the answer, and the wisdom of its selection can be attested by the way this product has stood the test of time.

Syrups of gravities other than 43 have, of course, been

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in
Chocolate Coatings
by
Ambrosia
FOOD OF THE GODS

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made for a number of years, but their use has been confined for the most part to chewing gum. It was not until high (enzyme) conversion syrup made its appearance that there was any radical change in the manufacture and marketing of syrup to the sweets industry. Heretofore corn syrup had been universally made by acid conversion of starch, with the process controlled to yield a resultant product of a medium D.E. or dextrose equivalent.

So that you may understand what this term means, and how it came to have significance, I will briefly describe the step of conversion. First the acid variety.

Starch, after having been freed from the fibrous and gluten fractions of the corn kernel, is further purified by centrifuging. It is then suspended in a measured quantity of water and is pumped to a closed bronze vessel known as a convertor. A catalyst, in this case an inorganic acid, is added at this point. This addition is made for the purpose of sparking the forthcoming reaction. High pressure steam is then turned on and held for a certain number of minutes as a definite p.s.i. figure. Under these conditions the starch molecule undergoes a series of changes. If these are allowed to go to completion, eventual hydrolysis of the starch takes place, with dextrose as the end-product of the process. The intermediate steps include the successive formation of dextrines, pro-sugars, maltose and dextrose. As you see, the change is progressive from the highly viscous, non-sweet starch and dextrine to the more fluid, sweeter products, with dextrose and maltose as the predominating sugars in the final blend. Time, heat, pressure and acidity are the factors that determine the degree to which the starch is changed, and the consequent composition of the syrup. The higher the conversion, the higher the sugars and the lower the dextrines, while the lower the conversion, the reverse becomes the relation of these components.

For simplification, this degree of conversion may be conveniently measured in terms of the total reducing sugars present, on a dry basis, expressed as dextrose. This is the dextrose equivalent, or D.E.

A medium, acid conversion syrup will have a D.E. figure of approximately 42, high conversion about 61 to 62. In addition to the method just described, conversion may be accomplished by enzymatic action usually superimposed on a partial acid conversion. The process is slower, but certain advantages are gained by this dual conversion method. One of these is the high proportion of sugars obtainable without danger from crystallizing of the dextrose. Another is the lower viscosity of the enzyme converted syrup, a concomitant of its lower dextrine content. This quality is a desirable one for the marshmallow manufacturer and for the production of certain types of bar goods, but is not so welcome to the hard candy producer.

In order that you may more readily compare the composition of these three types of syrups—low, medium and high conversion—I append the analyses of typical examples of these classes. The first two are made by acid conversion, while the last is commonly produced by a dual acid-enzyme treatment, or by a two stage acid conversion.

Constant surveillance by those in charge of chemical control hold these percentages of composition within narrow limits, and also serve to check the other factors

the **P**ick
of the **C**rop

ATLAS
TRUBASE®

IMITATION FRUIT FLAVORS



With a major base in true fruit
flavors fortified with expertly
blended synthetics to insure
lasting taste and aroma, the
TRUBASE line gives candy,
especially fondants and fillers,
real fruit taste at lowest cost.



RASPBERRY • CHERRY • PEACH • PINEAPPLE • STRAWBERRY AND OTHER FLAVORS

H KOHNSTAMM & COMPANY Inc.
ESTABLISHED 1881

89 PARK PLACE, NEW YORK 7 • 11-13 E. ILLINOIS ST., CHICAGO 11 • 4735 DISTRICT BLVD., LOS ANGELES 11
BRANCHES IN OTHER PRINCIPAL CITIES OF THE U.S.A. AND THROUGHOUT THE WORLD

Syrup Conversion	Regular Acid	Intermediate Acid	High Acid	High Acid Enzyme
Baume'	43	43	43	43
Moisture	19.7	19.05	18.9	18.5
Color) Loviband ..	.81	.55	1.3	.85
Heat Color) Series	2.7	2.37	3.0	2.9
D. E.	42.6	51.8	54.6	62.3
pH	5.0	4.98	4.84	4.96
S 03 ppm	30	26.2	22.5	19.25
Copper ppm	2	1.4	2.6	.975
Iron ppm	3	3.22	2.75	1.8
Carbohydrates (as is) ..	80.1	80.8	80.8	81.5
Carbohydrates (dry basis)	99.7	99.7	99.7	99.7
Dextrose (as is)	17.5	25.9	27.06	29.88
Maltose (as is)	16.7	20.5	21.88	27.44
Higher Surags (as is) ..	16.2	10.95	10.76	12.88
Dextrines (as is)	29.7	22.7	20.8	11.6
Viscosity (Centipoises)	14,000	8,970	9,090	7,350

that affect quality. An important one is color, or to be more exact, lack of color. Corn syrup manufacturers have attained a high state of clarity and brilliance for their goods, and are justly proud of this feature.

As we have already indicated, corn syrup is used in hard candy chiefly for its grain inhibiting properties. In most areas and under varying economic conditions cost may be a factor in its use. These, however, are not necessarily the only reasons for its inclusion in a hard candy formula. Corn syrup as a whole, because its solids have a lower rate of solution, governs the solubility of the finished hard candy. The lower sweetness of corn syrup may be a control in flavoring the hard candy preventing the masking of delicate flavors.

Corn syrup is limited as to its use by its inherent characteristics. A very high corn syrup content may result in an increased hygroscopic tendency to the hard candy. This may be aggravated further, in fact stickiness can be caused by the cold flow plastic characteristics that corn syrup possesses. Where the flavor is to be released rapidly and not uniformly controlled at a slower tempo its rate of solution may not be a desirable quality.

Now we know that various hard candies can be made without benefit of corn syrup, by reliance solely on invert syrup. The latter may be added as such, or it may be developed during the cook, by the presence of some acidulant. We also know that invert syrup consists of just about $\frac{1}{2}$ dextrose, identical to the dextrose in corn syrup; the remainder being levulose. We can therefore rightly expect similar action from this portion of the corn syrup, when this product makes up part of the hard candy formula.

However it is no secret that from a practical aspect, that very little high conversion syrup finds its way into high cooked goods, and the reduced grain control due to the lower dextrose content unquestionably accounts for this fact. The higher converted corn syrups although sweeter have more pronounced tendencies to producing stickiness in the hard candy and this fact further discourages their use in this type of confection. The use of a special low conversion syrup for hard candy might logically be suggested at this point, and such an idea admittedly has some merit. Other considerations have so far, however, ruled against such a change, except in rare instances. One is that its high viscosity makes it difficult to handle in the candy makers process. Many candy manufacturers produce a variety of confections, hard candy being only a part of their output. Since this type of corn syrup cannot be used in the other types

of candy this would mean he would have to handle an additional corn syrup. Many have two corn syrups to deal with now in their general line, a third one for hard candy alone may not be economically feasible. Unless tank cars are in question, the distributors themselves would find it extremely difficult to offer proper supply service under present conditions. It does produce a dryer hard candy and inhibits graining to a greater extent than the regular 42 D. E. corn syrup. The viscosity is so high that it can only be handled easily at a 42 Be.

While the scope of today's discussion is by assignment limited to the action of corn syrup, nevertheless the ingredients of hard candy are so mutually inter-active that consideration of any one may be ignored only at the risk of loss of some understanding of the others. This point is made more emphatic by the fact that corn syrup rarely represents more than half the batch. That is to say half the batch as it is put together;—not as computed on a dry basis. Needless to say the major portion of hard candy is made up of cane or beet sugar, with invert as a modifier, rather than a bulk ingredient.

Because one of the specific functions of corn syrup in hard candy is to control the grain, the relative tendency of various grades of sucrose grades of sucrose to crystallize is a pertinent subject. This property might be thought of as the reverse of the tendency toward inversion.

Different grades of cane or beet sugar differ markedly in their resistance to inversion, as measured by direct polarization of samples made according to the standard candy test used by this industry. Fine and extra fine cane sugars seem to show the least amount of inversion, while medium, standard and crystal sugars show the amounts increasing in the order given.

So far as cane sugar is concerned, the explanation seems to lie in the ash analysis of these various types. While the total ash is admittedly very low, there exists a definite and consistent variation between the ash in the types mentioned, with the greater amounts in the extra fine and fine, and vice versa. Tiny amounts of alkali earths will markedly reduce the tendency toward inversion, which bears out these observations. What is having effect, of course, is the buffering action of the mineral impurity on the normal course of formation of invert sugar. Most corn syrups and especially those entering the candy field are definitely buffered to reduce this inversion produced during the actual production of the hard candy. Many confectioners have come to rely on this action of the corn syrup and to some extent its use protects them from possible variations in the inverting tendency in their cane or beet sugar and in their processing conditions.

Our own industry employs a somewhat similar candy test comparable to a hard candy cook on a miniature scale to determine the tendency of corn syrup to cause inversion of sugar during a high cook. If more than a certain amount of inversion takes place, this batch of syrup is diverted to some use other than hard candy. Thus this test is an insurance to the candy maker against uncontrollable inversion during his processing. It reduces this unknown factor to a minimum.

The candy maker as we have mentioned previously was at first acquainted with invert sugar as a "doctor" or a grain inhibitor before corn syrup was available to

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him as a candy ingredient. Originally he deliberately produced it by employing acids and acid salts during his boiling of the hard candy. This was a delicate operation fraught with danger. Yet invert sugar in hard candies of a certain type is still considered desirable because he can make a candy having a certain definite crisp "bite" to it, a shorter texture than a hard candy that has a considerable amount of corn syrup in its make-up. Then too he arrived at a definite translucency that was considered attractive even though he might have to resort to extremely protective wrapping for marketing it successfully.

In order to escape the non-uniformity in invert sugar content in the finished candy when he relied on acids and acid salts during the boiling process, the candy maker began using an invert syrup made separately. Invert sugar discolors rather easily and rapidly when heated. This then allowed him to delay the addition at the last stage of his boiling process. When the type of equipment and his process conditions allowed, he could thus add both the corn syrup and the required amount of invert at that point thus obtaining more colorless candies.

However, the cane or beet sugar in this procedure has to be concentrated to a high degree without the continual presence of a grain retarder. Therefore care must be exercised not to introduce any graining through crystals of sugar dropping back into the boiling mass from the sides of the kettle.

This procedure is also followed when handling scrap. The candy maker attempts to gain a certain amount of invert through this means. Very often the presence of corn syrup and an undetermined amount of invert in this scrap complicates the final achievement and goal, namely a uniform finished hard candy quality. Even though the scrap is refined in some instances by decolorization and pH adjustment, it should be limited to a minimum as an ingredient. Its composition should be watched and the formulation of the final candy batch should be regulated in accordance with its vagaries. The best answer to this problem is to reduce its volume formed by the main operation.

Some other phases of this general subject of inversion will be considered when we discuss the types of kettles and cookers used in hard candy work.

Hard candy, in its widest sense, includes many modifications. These include not only suckers, pillows and stick candy, but various brittles, crunches and crisps not

ordinarily thought of in this connection. The product may be solid, may contain air worked in by pulling on the hook or by vacuum, or it may be in the form of a wrapping over some type of filling, such as peanut butter.

Basically, however, hard candy should be thought of as a solidified solution; and as such, subject to the laws of physical chemistry that govern this class of products. Regardless of this fact, it is highly unlikely that any great amount of practical knowledge about hard candy could be found in school books, no matter at what educational level they were aimed.

We can gain some general understanding of the joint phenomena of crystallization and solution, and of the conditions that bring these two phases into being, but the chemist with only book learning would be up to his ears in scrap in no time in the hard goods department. The practical man has watched the effects of heat, physical disturbance, moisture and inadvertent seeding on his batch and every day puts this knowledge into practice. The equipment designer likewise tries to take advantage of specialized knowledge of the pertinent conditions which modify the combination with which he is dealing; and the wrapping expert in turn keeps these considerations in mind.

A question often put to our industry is, "What is the Optimum percent corn syrup for hard candy?", and it is one that does not yield a ready answer. To make any intelligent recommendation, we should know the conditions under which the goods will be cooked, the type equipment used, the proposed method of wrapping and the geographical destination of the candy. All these have a distinct bearing on the candy formula, so it is no wonder that rather wide variations exist in the processes of different manufacturers. Some sort of agreement is evident, however, as figures reported in the recent government bulletin show. I refer to "Competitive Relationships Between Sugar and Corn Sweeteners." This publication shows the most widely favored percentage to be 60 parts sugar to 40 parts corn syrup, with a 70/30 ratio replacing this when an open fire cook was employed.

Availability of product is of course a factor to be reckoned with. Thus World War I saw corn syrup skyrocket to 90% against only 10% sugar, and while the more recent conflict did not match this, there were many formulas set up at 55% corn syrup-45% sugar.

Perhaps the major factor which determines the sugar syrup ratio is the class of cooking equipment used.

TRUTASTE FLAVORS

KASKA CONCENTRATED CITRUS OILS

Neumann, Buslee & Wolfe, inc.

5800 NORTHWEST HIGHWAY, CHICAGO 31, ILLINOIS

When the batch is heated under atmospheric pressure in an open kettle, over burning coke, oil or gas, sugar must preponderate in the candy formula. The high heat necessary to drive off the moisture brings about considerable inversion along with the formation of some sugar degradation products as evidenced by color formation as the cook nears its completion. Any sizeable addition of corn syrup would therefore have the effect of raising the total of reducing sugars beyond the point of safety, and stickiness would be the result. The percentages of corn syrup are thus limited in this variety of goods to 20 or 30 percent. While open fire cook has been widely superseded by some form of vacuum processing, certain characteristics of this high heat treatment are desirable. Flavor development, reminiscent of the old Barley Sugar goods, is often brought about by this method.

The use of reduced pressure for moisture removal is the principal contribution of the vacuum kettle and continuous cooker. By this means a marked reduction in the heat is accomplished, with a consequent lessening of the amount of inversion. Color formation is held at a minimum for the same reason.

The vacuum kettle may utilize either steam or gas for preheating the candy mixture. Ordinarily this pre-melt is carried to about 270°F, after which the heat is turned off and the batch subjected to a high vacuum for from 8 to 10 minutes. During this period additional moisture is evaporated and at the same time the mass is cooled. Thus it is ready to be worked almost immediately after discharge from the cooker.

By the use of pre-melting kettles, production of from

400 to 800 pounds of candy per hour is possible. Likewise wide flexibility is allowable in the sugar to syrup ratios and high gloss, excellent lustre, low moisture and extra whiteness can be had with this equipment.

At least two types of continuous cookers have gained popularity in this country. Production capacity up to 2500 pounds per hour is possible with one of these modern units. In these the pre-melted batch, this time cooked only to 230-235 degrees, is pumped through a large coil immersed in a steam chamber. Here it is rapidly heated to the proper degree and then immediately discharged into a vacuum chamber or receiving kettle directly beneath the coil, where the moisture is quickly volatilized. Removal of the finished candy is effected by use of quick acting hand-operated valves, or by swinging the lower kettle to one side after release of the vacuum. Some of these cookers are all purpose types that will successfully handle straight sugar or widely varying percentages of corn syrup. However, in some continuous vacuum cook set-ups a formulation having the corn syrup and the invert content on the low side is dangerous from a general quality view point. Crystallization within the process may result and this will impair the texture of the finished candy.

All the cookers described will do a good job providing they are operated in accordance with the manufacturer's directions.

At this point a few words are not amiss as to control of quality standards in the candy. The best indices of uniformity in the finished candy are moisture and the reducing sugar content. At times some producers use a polariscopic determination of the sucrose content. The easiest and most rapid are the first two and usually are sufficient.

The moisture must be below 1%. Above this the shelf-life of the candy is impaired. A standard for the reducing sugar content should be set for the particular formula used in the production of the candy. A lowering of this may indicate danger from crystallization brought about by some weighing or addition error in the adding of the ingredients. If it is higher than the normal may mean a candy prone to stickiness. Then a pH adjustment may be necessary during the boiling, or the vacuum may have fallen below normal, an excessive cooking time may have resulted or temperature had been raised thereby causing greater inversion. No one aiming at uniformity of production and quality of his candy should ignore these tests.

The hard candy maker is constantly trying to evolve new and different pieces to capture the favor of the public. It seems a reasonable assumption that corn syrup will continue to control the grain of these new items, as it has so well done in the past. The corn refining processors fully recognize their dependence on and partnership with, the great business of producing sweets for the American people, and stand ready to help in any way possible.

In conclusion the authors wish to express thanks for the cooperation given in preparing this address to Mr. C. Rudolph Kroekel of Kroekel-Oettinger, Inc., Mr. Clifford Clay of Whitman Chocolate Co. and to Mr. Joseph Rafetto of the Vacuum Machinery Co. We also acknowledge the report of Dr. A. B. Cramer of the F & F Laboratories presented at the 10th Annual I. F. I. Convention May 24th, 1950 as an information source.

The End

NOW..FUNSTEN

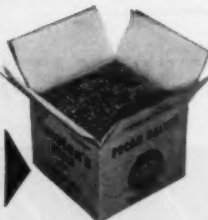
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For Your Added Protection

For over 55 years Funsten has made available only the highest quality Pecans and Eastern Black Walnuts. Now, for your added protection, all Funsten nut meats are Funstenized—a new process (not heat treated) for destroying harmful bacteria and assuring year 'round natural flavor. After nut meats are "Funstenized," incubation tests show insect life all negative, bacteria, yeast and mold negligible when packed.

New red and blue printed shipping cases designed for easy color identification of halves and pieces. Stronger, stack with less damage. Grease-proof inner-liner.



For prices and terms, see your local Funsten broker or write:

R. E. FUNSTEN Company, 1515 Delmar, St. Louis 3, Mo.
"Highest Quality for Over 55 Years"

Association News

All officers of the **National Confectioners' Association** have been reelected for the coming year. **Philip P. Gott** continues as president, his 13th year in that post.

Charles S. Grube, vice-president in charge of bulk sales of **Wilbur-Suchard Chocolate Co., Inc.**, has been named president of the **Pennsylvania Manufacturing Confectioner's Association**.

The **Empire State Candy Club**, at its annual meeting March 26th, elected the following officers, **Herbert Smith** president, **Ernest Durfee** 1st vice president, **Carl Dennis** 2nd vice president, **Hy Falkowitz** secretary, **Sollie Rogoff** treasurer, **Archie Waid** board of governors, and **Carlton Perry** board of governors.

The **Association of Manufacturers of Confectionery and Chocolate**, at their annual meeting, elected the following officers: President, **V. A. Bonorpo**; V. P., **A. H. Heide**; Sec-Treas., **H. Lustig**; Honorary, **H. L. Hoops**, **H. L. Heide**, **C. F. Haug**; Execu-

tive Committee, **C. R. Adelson**, **A. Baumgarten**, **I. L. Cook**, **J. C. Drury**, **G. R. Frederick**, **J. Hand**, **J. Jaffe**, **C. L. Paine**, **A. Radutsky**, **C. E. Reid**, **I. C. Shaffer**, **J. S. Swersey**, and **H. Tenzer**.

The **National Confectioner's Association** has published a booklet titled "Improved Methods of Plant Cleaning." This is a compilation of five talks given at the sanitation conference in Chicago on April 26, this year, sponsored by the NCA. Copies are available from the NCA at 25c, and lower for quantity orders.

The **Associated Retail Confectioners Association**

have reelected all of their officers for the coming year. They are **John Mavrakos**, president, **Joseph Oliver**, first vice president, **Laurance See**, second vice president, **William D. Blattner**, secretary-treasurer, a post he has held for 30 consecutive years. Three new members elected to the executive committee are **Ira Minter**, **C. G. Pulakos** and **Don Thomas**.



John Mavrakos

If you Manufacture Marshmallow

Use--

Penford Corn Syrup

1. Retards drying
2. Prevents graining
3. Delays onset of surface crustation

Douglas Confectioners Moulding Starch

1. Prints clean
2. Absorbs moisture rapidly
3. Readily reconditions

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420 Lexington Ave. Factory:
New York 17, N.Y. Cedar Rapids, Iowa



the mark of good taste...
in chocolate and cocoa products

Blumenthal Bros.
Chocolate Co.

"a famous name since 1900"

Two great plants to serve you... better!

MARGARET & JAMES STS.
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Candy Clinic

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of **The MANUFACTURING CONFECTIONER**.



Code 7E53
Hard Candy Raspberries—
No Price or Weight Stated

(Sample #4747)

Appearance of Package: Good.
Container: Cellulose bag printed in red and white.
Raspberries:
Color: Good.
Shape: Good.
Gloss: Fair.
Texture: Good.
Flavor: Poor.
Remarks: Imitation flavors at their best do not make good eating pieces of hard candy.

Code 7F53
Panned Small Round Balls—
Sugar Center—
No Price or Weight Stated

(Sample #4748)

Appearance of Package: Good.
Container: Cellulose bag printed in red and white.
Balls:
Colors: Good.
Panning: Good.
Finish: Good.
Texture: Fair.

Flavors: Fair.
Remarks: Suggest a better grade of flavors be used. Some of the centers need checking up as they were hard.

Code 7G53
Chocolate Filled Hard Candy
Strings
No Weight or Price Stated

Appearance of Package: Good.
Container: Cellulose bag printed in red and white.
Strings:
Colors: Good.
Gloss: None.
Spinning: Fair.
Center: Chocolate paste.
Color: Good.
Texture: Good.
Taste: Good.
Remarks: Strings were partly grained.

Code 7D53
Summer Assortment
1 lb. — 69c

(Purchased in a department store, Chicago, Ill.)
Appearance of Package: Good.
Container: White board tray, printed overall seal. Overall wrapper of cellulose.

Assorted Gums:
Colors: Good.
Shapes: Good.
Sugaring: Good.
Texture: Good.
Flavors: Good.
Assorted Nougats:
Colors: Good.
Texture: Poor. Doughy.
Flavors: Good.
Assorted Caramel & Nougat in Layers:
Colors: Good.
Texture:
Caramel: Good.
Nougat: Poor: doughy.
Taste: Good.
Remarks: A good looking package.

Assorted Gum Drops
1 lb. for 50c
Code 5P53

(Purchased in a department store, San Francisco, Calif.)
Appearance of Package: Good for this priced candy.
Box: One layer type oblong window in center of box. White light board top, printed in green. Cellulose wrapper.
Gum Drops:
Colors: Good.
Sugaring: Good.
Texture: Good.
Flavors: Good.
Remarks: The best package of this kind we have examined this year; at this price.

Code 7B53
Marshmallow Tarts
8 ozs. — 29c

(Purchased in a department store, Chicago, Ill.)
Appearance of Package: Good.
Container: Cellulose bag, paper clip on one end. White printed in blue.
Tarts: Tarts are a large marshmallow topped off with colored gum drops.
Marshmallow: Very good.
Gums:
Colors: Good.
Texture: Good.
Flavors: Good.
Remarks: A very good eating piece. Well made and cheaply priced at 29c.

Candy Clinic Schedule For The Year

The monthly schedule of the **CANDY CLINIC** is listed below. When submitting items, send duplicate samples six weeks previous to the month scheduled.

JANUARY—Holiday Packages; Hard Candies

FEBRUARY—Chewy Candies; Caramels; Brittles

MARCH—One-Pound Boxes Assorted Chocolates up to \$1.00

APRIL—\$1.00 and up Chocolates; Solid Chocolate Bars

MAY—Easter Candies and Packages; Moulded Goods

JUNE—Marshmallows; Fudge

JULY—Gums; Jellies; Undipped Bars

AUGUST—Summer Candies and Packages

SEPTEMBER—Bar Goods; 5c Numbers

OCTOBER—Salted Nuts; 10c-15c-25c Packages

NOVEMBER—Cordial Cherries; Panned Goods; 1c Pieces

DECEMBER—Best Packages and Items of Each Type Considered During Year; Special Packages, New Packages

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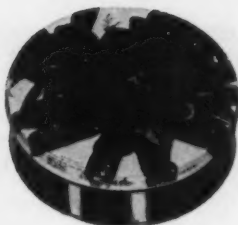
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PROTECTS—DISPLAYS—SELLS

MINTS HARD CANDIES
CHOCOLATES ASSORTMENTS

Manufacturing retailers and wholesalers all over the country are using metal containers. They have found cans to be a sales boost to seasonal and holiday items, as well as for those "in-between" times. Do you have an item never before packaged in metal cans? Write us, and let us design and style a can for your confections.



STOCK OR CUSTOM

DESIGNS AND SIZES

QUALITY SERVICE BY



Quality **OLIVE CAN COMPANY** *Service*
MANUFACTURERS • DESIGNERS
PLAIN • LITHOGRAPHED
METAL CONTAINERS
450 N. LEAVITT ST., CHICAGO 12, ILLINOIS

Suggest nougat formula be checked as it is not a good eating nougat. Gums are very good eating. Well made.

Code 7A53
Old Fashioned Sponge Candy
4½ ozs. — 19c

(Purchased in a department store, Chicago, Ill.)

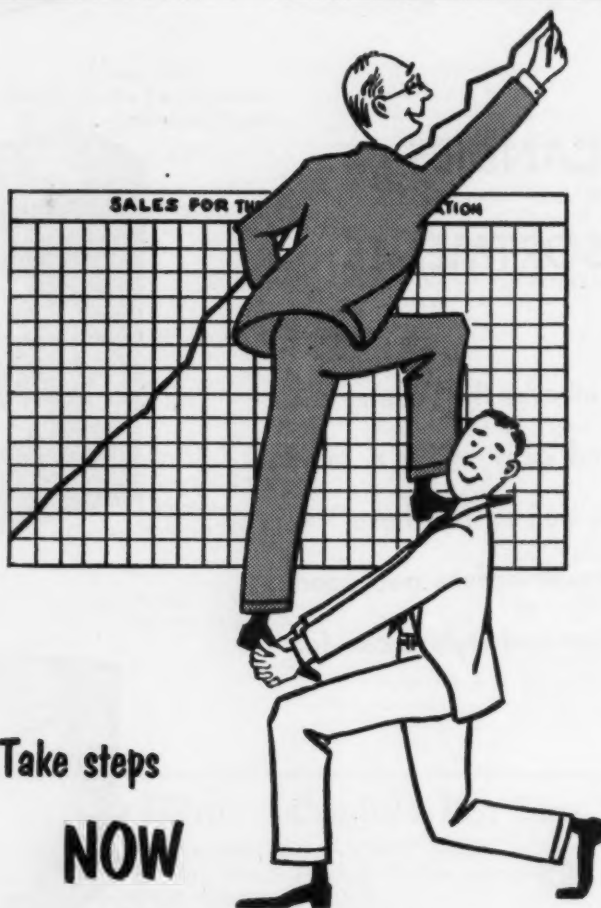
Appearance of Package: Good.
Wrapper: M.S.T. cellulose wrapper. Overall print in brown and white. Piece is loaf shaped.
Color: Good.
Texture: Good.
Taste: Good.

Remarks: A well made sponge candy and good eating for this type of confection.

Code 7C53
Crystal Assortment
11 ozs. — 79c

(Purchased in a department store, Chicago, Ill.)

Appearance of Package: Good.
Container: Round one layer acetate box, printed seal on top.
Gums: Large and small.
Colors: Good.
Texture: Good.
Crystal: Good.
Flavors: Good.
Lemon Slices: Good.



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to your products with ...



PEACOCK BRAND
CERTIFIED FOOD COLORS

MANUFACTURED AND DISTRIBUTED BY WM. J. STANGE CO.,
CHICAGO 12, ILLINOIS OAKLAND 21, CALIFORNIA
IN CANADA: STANGE-PEMBERTON LTD., NEW TORONTO, ONT.

Gum & marshmallow in layers:
Colors: Good.
Texture: Good.
Crystal: Good.
Flavors: Good.

Remarks: Very well made gums. Good eating. Highly priced at 79c for 11 ozs. for this type of confection.

Code 7K53
Chocolate Coated Hard Candy
Pop on Stick
No Weight or Price Stated

(Sample #4750)

Appearance of pop: Good.
Wrapper: Wax paper wrapper.
Pop: Pop is dipped in chocolate and then covered on top with red nonpareils.
Coating: Good.
Nonpareils: Good.
Color: Good.
Texture: Good.
Flavor: Poor.
Remarks: Suggest a better grade of flavor be used.

Code 7H53
Hard Candy Tablets
No Weight or Price Stated

(Sample #4752)

Appearance of Package: Good.
Container: Cellulose bag printed in red and white.
Tablets:
Color: Good.
Shape: Good.
Gloss: None.
Flavor: None.
Remarks: Suggest a better grade of flavor be used.

Code 7I53
Chews
No Weight or Price Stated

(Sample #4753)

Appearance of piece: Good.
Container: Printed wax paper wrapper.
Chews:
Color: Poor.
Texture: Tough.
Flavor: Poor.
Remarks: Suggest a better grade of flavor be used.

CONVEYORS

Corrigan bulk dry sugar handling and storage systems convey sugar from unloading point to storage and from storage to production.

Improve production facilities
Lower operation costs

J. C. CORRIGAN CO. INC.

41 Norwood St., Boston 22, Mass.

Code 7J53
Small Chocolate Coated
Peppermint Cream Pattie
No Weight or Price Stated

(Sample #4749)

Appearance of piece: Good.

Wrapper: Foil wrapper printed in red and white.

Pattie:

Coating: Dark: Good.

Center:

Color: Fair.

Texture: Fair.

Flavor: Poor.

Remarks: The peppermint flavor is not up to the standard used in the U.S.A. Center was not a good fondant.

Code 7L53
Assorted Hard Candy Drops
No Weight or Price Stated

(Sample #4751)

Appearance of Package: Good.

Container: Cellulose bag printed in red and white.

Drops:

Colors: Good.

Gloss: Fair.

Texture: Fair.

Flavors: Could not identify flavors.

Remarks: Suggest a better grade of flavors be used.

Code 7L53
Hard Candy Cuts
No Weight or Price Stated

(Sample #4752)

Appearance of Package: Good.

Container: Cellulose bag printed in red and white.

Mints:

Color: Good.

Stripes: Good.

Gloss: None.

Texture: Good.

Taste: Could not identify flavor.

Remarks: Suggest a better grade of flavor be used.

Code 7M53
Chocolate Tryffel & Puffed Rice

(Sample #4754)

Appearance of piece: Good.

Wrapper: Foil wrapper printed in red.

Tryffel:

Chocolate: Good.

Puffed Rice: Good.

Remarks: A very good eating piece; well made.

Code 7N53
Chocolate Coated Praline Bar
No Weight or Price Stated

(Sample #4755)

Appearance of bar: Good.

Wrapper: Gold foil wrapper printed in red.

Coating: Good.

Center:

Color: Good.

Texture: Good.

Taste: Good.

Remarks: A very fine eating piece.

*An H&D
idea for you*



This Highly Dependable
 corrugated box protects and
 promotes its contents in transit
 and warehouse. Write for booklet
 "Creative Package Engineering"
 Hinde & Dauch,
 Sandusky 12, Ohio.

H&D

HINDE & DAUCH

17 MILLS AND FACTORIES • 40 SALES OFFICES

Our 65th Year

A Research Summary

The NCA has published the first of a planned series of summaries of the research being done under the joint sponsorship of the NCA and the Dept. of Agriculture. The first summary deals in brief with the Progress reports numbered 22, 23 and 24, which describe research on the use of antioxydants in candy.

There are two types of fat deterioration. One is oxidative rancidity, and the other is hydrolytic rancidity. Antioxydants are useful in retarding the development of the first type, but are of no use against the second type. It was determined that high grade vegetable shortenings are only subject to the second type of rancidity, and therefore, do not benefit from the use of antioxydants. However, animal fat shortenings and butter are subject to oxidative rancidity, and the use of the proper antioxydant will materially increase the shelf life of these materials. A list of the antioxydants used in this research, the names of the suppliers, and their effectiveness, follows.

1. Butylated hydroxyanisole (BHA)

Amount: Use 0.01% of the weight of the fat.

Suppliers: Tennessee Eastman Corp.
360 N. Michigan Blvd., Chicago 4, Illinois.
Universal Oil Products Co.
310 S. Michigan Blvd., Chicago, Illinois.

Results: Used in cream fondant with 5% butter, had an acceptable shelf life for over 24 weeks at end of experiment.

2. Mixture; BHA, propyl-gallate, citric acid, etc.

Amount: Use 0.015%-0.025% of the weight of the fat. (Do not exceed 0.015% of BHA and propyl-Gallate)

Suppliers: The American Lecithin Co. (Stabolec)
Woodside, Long Island 77, New York.
Tennessee Eastman Corp. (Tenox II)
360 N. Michigan Blvd., Chicago 1, Illinois.
Universal Oil Products Co. (Sustane)
310 S. Michigan Blvd., Chicago 4, Illinois.

Results: Used in cream fondant with 5% butter, had an acceptable shelf life for over 24 weeks at end of experiment. Also used in cream fondant with 5% animal fat, and in Fudge with 5% animal fat, with the same experimental results.

3. Nordihydroguaiaretic acid (NDGA)

Amount: Use 0.01% of the weight of the fat.

Suppliers: William J. Stange Co.
342 N. Western Ave., Chicago 12, Illinois.

Results: Used in cream fondant with 5% butter, had an acceptable shelf life for over 24 weeks at end of experiment.

4. Mixture; Propyl gallate-citric acid-natural antioxidants (G-4)

Amount: Use 0.20%-0.25% of the weight of the fat. (Do not exceed 0.01% propyl-gallate)

Suppliers: The Griffith Laboratories, Inc.
1415 W. 37th St., Chicago 9, Illinois.

Results: Used in cream fondant with 5% butter, had an acceptable shelf life of about 13 weeks.

5. Brewers Yeast (Debittered)

Amount: Use not more than 3% of the weight of the candy.

Suppliers: For names of suppliers contact:
Brewers Yeast Council,
605 N. Michigan Ave., Chicago 1, Illinois.

Results: Used in cream fondant with 5% butter, had an acceptable shelf life for over 24 weeks at end of experiment.

6. Primary yeast

Amount: Use not more than 3% of the weight of the candy.

Suppliers: Standard Brands,
1015 S. Independence Blvd., Chicago 24, Illinois.

Results: Used in cream fondant with 5% butter, had an acceptable shelf life of about 19 weeks.

7. Oat Flours

Amount: Use 2% or more of the weight of the candy.

Suppliers: Avenex Corp.
250 W. 57th St., New York 19, N. Y.
National Oats Co.
Cedar Rapids, Iowa.

Results: Used in cream fondant with 5% butter, had an acceptable shelf life for over 24 weeks at end of experiment.

Appended to this report are two quite interesting letters. The first is by Mr. Gott addressed to Mr. Crawford of the FDA. Mr. Gott requested an opinion on the legality of using the antioxidants numbered 1 through 4 above in candy, in the amounts stated.

Mr. Crawford replies that from the safety angle, BHA and the BHA mixture, numbers 1 and 2 above, are acceptable. NDGA in his opinion needs further proof of non-toxicity. The term "natural antioxidant" would have to be further identified for a definite opinion, though the product marketed as "G-4" was known and approved. This was in connection with number 4.

The last paragraph of Mr. Crawford's letter follows:

"You will note that the above comments relate to safety. The question of whether these substances are 'nutritive' is one on which we have no conclusive facts. On the basis of opinion, we must question whether any of the specific substances named, with the exception of citric acid, are utilized by the body. We recognize, however, that substantial experimental work would be needed to settle the question. In view of the very small amounts of antioxidants that would actually be used, we have no plans for conducting such investigations."

Any specific answer on the subject of "nutritive value" and its enforcement by the FDA contained in this letter would be in the realm of "reading between the lines." However, this opinion seems to give the candy industry some hope that it can use the antioxidants and emulsifiers developed for other industries and used in food products. This of course does not pertain to "standard" foods such as chocolate, but does to all other types of confectionery.

Confectioners' Briefs

The J. W. Robinson Co., a department store of Los Angeles, has acquired the outstanding capitol stock of **Welch's Candy, Ltd.** Welch's, a 26 year old California company, was founded in Canada by Charles F. Welch, who came to California in 1927 at the insistence of Harry Robinson, then president of Robinson's, to make candy exclusively for that store. The firm, to be operated as a subsidiary of Robinson's, will continue the wholesaling of its candy products through retail stores in the west, and will continue to operate three retail stores. **Mr. D. Gordon Ross**, who has been with the company since its conception, will be vice-president and general manager, and will in addition manage the candy departments at the Robinson's stores in Los Angeles and Beverly Hills.

Hawley & Hoops has appointed **Roy S. Durstine** as advertising agency. The agency has purchased a film version of "Johnny Jupiter," which will be televised in from 65 to 75 markets this fall.

Fred T. Haley has been promoted to general manager of **Brown & Haley**, Seattle, Washington. He will continue his duties as sales manager. **R. G. Haley** has been appointed production manager, and **Wallace D. Arbuckle** is the new plant superintendent. Mr. Arbuckle was formerly plant superintendent at Fanny Farmer in the New York City Plant.

The **American Chicle Co.** and **General Mills, Inc.**, are featuring a premium offer of a 5c package of Dentyne chewing gum with each purchase of a special package of Cheerios cereal. The June campaign used color ads in Sunday supplements, network radio and TV programs.

Newark Packing Company, Newark, N. J., has elected **Spencer Smith** as chairman of the board. This firm packs salted nuts.

Loft's Candy Shops is among the New York City firms who will sponsor one of the Lewisohn Concerts.



Keep 12 current issues of The "MC" handy for reference in this binder.

Made of handsome leatherette, these binders are fitted with 12 easily adjustable wires that hold the magazines. When the binder is full, year old issues can be filed as new ones come in, always keeping the last 12 months instantly available for reference.

Your binder will be promptly mailed to you on your order and remittance of three dollars. Send your order now to

The Manufacturing Confectioner Publishing Co.

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418 N. Austin—Oak Park, Ill.

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for your *Candies*

Satins • Moires • Taffeta
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111 NORTH CANAL STREET
CHICAGO 6, ILLINOIS

CODE DATERS NAME MARKERS PRICERS

**Gummed Tape Printers
For The Candy Industry**

Write for information

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Confectionery
Office and Sales Room
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BOSTON 15, MASS.
Territory: New England

Middle Atlantic States

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318 Palmer Drive
NO. SYRACUSE, NEW YORK
Terr: New York State

IRVING S. ZAMORE

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29 Years Experience
Terr: Pennsylvania, excluding
city of Philadelphia

South Atlantic States

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Candy and Specialty Items
P. O. Box 472—111 Rutland Bldg.

DECATUR, GEORGIA

Terr: Ga. & Fla.
Thorough Coverage

SAMUEL SMITH

2500 Patterson Ave. Phone 22318
Manufacturers' Representative
WINSTON-SALEM 4, N. CAROLINA

Terr: Virginia, N. Carolina,
S. Carolina

ROY E. RANDALL CO.

Manufacturers' Representative
P. O. Box 605—Phone 7590

COLUMBIA 1, SO. CAROLINA

Terr: No. & So. Carolina
Over 25 years in area

IRVIN P. NORRIS

Manufacturing Representative
Austin Circle
DECATUR, GEORGIA
Candy—Novelties—Package Foods
Territory: Ga., Fla., Ala. & Tenn.

BUSKELL BROKERAGE CO.

1135 East Front Street

RICHLANDS, VA.

Contact Wholesale Groceries, Candy
Jobbers and National Chains
Terr: Va., W. Va., Eastern Tenn.,
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WM. E. HARRELSON

Candy & Allied Lines
5308 Tuckahoe Ave.—Phone 44280
RICHMOND 21, VIRGINIA
Terr: W. Va., Va., N. & S. Car.

East No. Central States

H. K. BEALL & CO.

308 W. Washington St.
CHICAGO 6, ILLINOIS
Phone STate 2-6280
Territory: Illinois, Indiana,
Wisconsin
25 years in the Candy Business

IRWIN E. TUCKER COMPANY, INC.

308 W. Washington Street
Chicago 6, Illinois
Complete Coverage of Chicago
Market

ROGER EITLINGER

Phone Townsend 8-5369
16525 Woodward Ave.
DETROIT 3, MICHIGAN
Terr: Entire state of Michigan

BERNARD B. HIRSCH

1012 N. 3rd St.
MILWAUKEE 3, WISCONSIN
Terr: Wis., Ia., Ill. (excluding Chi-
cago) Mich. (Upper Penn.)

East So. Central States

J. L. FARRINGER CO.

FRANKLIN, TENNESSEE
Established 1924
Territory: Tenn., Ky., and W. Va.
3 Salesmen covering territory

Curtiss Candy Company's soft drink base "Miracle Aid" will be advertised in full-page, four-color ads in national magazines during the summer months.

Calvin F. Rutt, formerly of the Riggi Candy Co., will be the candy buyer for the Wolch Nut & Candy Co. The Riggi Candy Co. is in receivership, and has ceased manufacturing operations.

Controlling interest in the Joe Franklyn Myers Industries, Dallas, Texas, has been bought by Mr. H. R. Butts, who becomes president of the firm. Mr. Myers remains as chairman of the board, with a minority stock interest, in an advisory capacity.

Fanny Farmer Candy Shops have rented a store in the Chrysler Building on East 42nd St., New York City.

Fanny Farmer Candy Shops has reduced prices an average of 9 to 10 per cent effective immediately, it was announced by John D. Hayes, president. The new prices, reflecting the first general reduction in fourteen years, place all candy, except three distinctive assortments, at \$1.20 a pound. The price increases \$1 for each additional pound. The company's prices ranged from \$1.20 a pound to \$1.45 before the reduction, with home assortments at \$1.25 and pecan butter candy at \$1.35. The mark-down comes at a time when the 400-unit chain is in the midst of a transition from "little white shops." Fanny Farmer sold just under 18 million pounds in 1952. The company plans to push its modernization and expansion activities in the next twelve months. Eighteen new stores are scheduled to be opened. Mr. John D. Hayes, President, announced that its net earnings last year amounted to \$591,137 equal to \$1.73 per share. This compared with \$443,842 or \$1.30 per share for 1951. Sales totaled \$17,494,351 as compared with \$17,003,441 the previous year.

Dr. Robert G. Tischer, formerly professor of food technology at Iowa State College, has been named director of Food Laboratories for the QM Food and Container Institute for the Armed Forces, it was announced by Lt. Col. George F. McNaney, commandant. The QM Institute, located at the Chicago Quartermaster Depot, is a branch of the Research and Development Division of the Office of The Quartermaster General, and conducts research to develop new or improve the existing rations or components used by all of the US Armed Forces; included in the program is a research and development assignment on the packaging of rations and all other items of Quartermaster responsibility except petroleum, oils, and lubricants.

C. H. Hoagland, Confectionery broker of Charlotte, died recently. He had for some 30 years represented leading confectionery manufacturers covering the South. He was a founder and past president of the Southern Salesmen's Candy Club and a charter member of the Carolina Confectionery Salesmen's Club.

top quality

CHOCOLATE
COATINGS

H O O T O N

LIQUORS . . . POWDERS

HOOTON CHOCOLATE COMPANY

NEWARK 7, NEW JERSEY

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ECTIONER

A. S. Jaffe Co., national sales agents for Annabelle Candy Company, color keynotes the third year's advertising campaign for Annabelle's Rocky Road Candy Bar—a campaign now expanded from small newspaper space in the immediate San Francisco, Los Angeles, and Portland markets to state-wide transit coverage in California, Oregon, Washington, and Utah.

Cadbury-Fry (America) Inc. has announced that the business of selling Cadbury and Fry products in the U. S. has been taken over by Cadbury-Fry (Export) Ltd., 261 Broadway, New York, N. Y.

William Wrigley, Jr., Co. has assumed sponsorship of "Yours Truly, Johnny Dollar" with the re-scheduling of the dramatic series in the 8:00-8:30 p. m. Tuesday time period.

Bunte Brothers will launch a series of aggressive selling ads to promote world famous Diana "Stuff" Confections, in Life Magazine and The Saturday Evening Post.

The Cracker Jack Company announces the retirement of Herman A. Cole, after 47 years of service with the firm, from the presidency. The newly elected officers are P. D. Allman, president; H. G. Eckstein, Jr., vice president; F. A. Werner, treasurer; W. D. Wiley, vice president and general manager; F. L. Dihel, secretary; and H. H. Wegner, ass't secretary.

Curtiss Candy Company has expanded its board of directors from four to nine members. The new members include Robert B. Schnering, Philip B. Schnering, William D. McFarland, William C. Jakes, Gunnar C. Macki, and David R. Corbett.

Gilbert Rosenbaum, assistant plant manager of the Dallas Division of Peter Paul, Inc., has been named assistant plant manager.

● **Peter Paul, Inc.**, has announced the appointment of four key officials in the Naugatuck plant. These are Lloyd Elston—plant manager, G. M. Poverud—Director of coconut research, Kazar Tatoian—superintendent of production, and William Krueger—assistant superintendent of production. Mr. Robert S. Gray of the accounting and purchasing department, Oakland Division, has been named assistant controller of the company.

● **A. Alexander Singer**, vice president of Rockwood & Co., died last month. Mr. Singer had been a member of the New York Cocoa Exchange since July 1946.

● **Chas. Pfizer & Co.** is now marketing orange flavored Candettes, troches containing drugs, for prescription sales.

● **Pure Candies, Inc.**, filed a charter of incorporation in Dover, Delaware. Capital is listed as \$100,000, and United States Corp., Co., Dover, Del., is serving as the principal office.

Confectionery Brokers

East So. Central States (cont'd)

FELIX D. BRIGHT & SON

Candy Specialties
P. O. Box 177—Phone 8-4097

NASHVILLE 2, TENNESSEE

Terr: Kentucky, Tennessee, Alabama, Mississippi, Louisiana

AUBREY O. MAXWELL CO.

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NASHVILLE 3, TENN.
Manufacturers Sales Agent
Territory: Middle Tennessee

West No. Central States

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MINNEAPOLIS 17, MINN.

Phone: Pa. 7659
Terr: Minn., N. & S. Dak.—Special attention given to Twin City trade

GRIFFITHS SALES COMPANY

725 Clark Ave.—Phone GA. 4979

SAINT LOUIS 2, MISSOURI

We specialize in candy and novelties.
Terr: Mo., Ill., and Kan.

West So. Central States

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BALLINGER, TEXAS
Personal Representation
Territory: Texas

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JERRY HIRSCH

Manufacturers' Representative
Candy and Specialty Items
4111 E. 4th St.

TUCSON, ARIZONA

Territory: Arizona, New Mexico & El Paso, Texas

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P.O. Box 1442
ALBUQUERQUE, NEW MEXICO
Brokers of Fine Candies and Interesting Novelties
We believe in "detail" work
Three Men covering:
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Personal service to 183 jobbers, super-markets and department stores. Backed by 26 years experience in the confectionery field. We call on every account personally every six weeks. Candy is our business.

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Broker

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Terr: New Mexico, Arizona & El Paso, Texas area

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923 East 3rd St.
Phone: Trinity 8282

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Terr.: Calif., Ariz., N. Mex., Hawaiian Islands

GENE ALCORN & CO.

1340 E. 6th Street
LOS ANGELES 21, CALIFORNIA
383 Brannan Street
SAN FRANCISCO 7, CALIFORNIA
Territory: State of California

HARRY N. NELSON CO.

112 Market St.
SAN FRANCISCO 11, CALIF.
Established 1906
Sell Wholesale Trade Only
Terr: Eleven Western States

I. LIBERMAN

SEATTLE 22, WASHINGTON
Manufacturers' Representative
1705 Belmont Avenue
Terr: Wash., Ore., Mont., Ida., Utah, Wyo.

GEORGE R. STEVENSON CO.

Terminal Sales Building
SEATTLE, WASHINGTON
Territory: Wash., Ore., Ida., Mont
Over 20 years in this area.

NILES F. WICKER

Confectionery Manufacturers' Representative
811 Boren Avenue
SEATTLE, WASHINGTON
Territory: Washington and Oregon
15 years' experience in selling candy to all wholesale grocery, tobacco, confectionery jobbers, besides making a full coverage on all grocery chains, drug chains, super markets and pre-packers.



The MANUFACTURING CONFECTIONER'S

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MACHINERY FOR SALE

FOR SALE: Lynch Wrap-O-Matic Bar Wrapper with Electric Eye. In excellent condition. Box 537, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Huhn Starch Dryer and Cooler. Complete with full equipment. Installed to operate with Mogul. Box 538, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Package Machinery Co. DF Bar Wrapper, with electric eye. In excellent condition. Box 539, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Complete Bubble Gum Unit consisting of Extruder, Rolling Machine, practically brand new Package Machinery Kiss Machines, Chewing Gum Mixer. Highly efficient unit which is in excellent condition. Available at a reasonable price. Box 6311, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Friend Bostonian Model Hand Roll Machine in good condition with 240 new wooden trays. **Norris Candy Co., P. O. Box 2208, Atlanta, Ga.**

FOR SALE: #4½ Champion Continuous Feed Cookie Machine to take a 19 inch plaque with ¾ H.P. 110 Volt 60 Cycle motor and five standard dies ¼", ⅜", ½", ¾" and 1". **Norris Candy Co., P. O. Box 2208, Atlanta, Ga.**

32" ENROBER WITH BOTTOMER, with 80' long Economy Lustr-Kool Tunnel—complete line. Also in same line, cooling tunnel for peanut-honeycombed candies or bars. Box 636, **The MANUFACTURING CONFECTIONER.**

LP-3 POP WRAPPER. U. S. Automatic Carbonia Machine, Simplex Steam cooker, D. F. Bar Wrapper, Instant Fondant Machine, FA-3 Package Wrapper with 4 changes, 600-lb. N. E. Hord Candy Cooker. Box 635, **The MANUFACTURING CONFECTIONER.**

FOR SALE CARRIER REFRIGERATION

Used Centrifugal Refrigerating Machine, Model 17-M, size 42, applicable to all refrigeration and air conditioning requirements, maximum 240 tons, direct connected to Murray low pressure steam turbine. Can be used for various capacities and temperatures. Complete unit, excellent condition. Can be purchased at a saving of fifty percent of its new cost. CAN BE ARRANGED FOR MOTOR DRIVE.

DENNY & CLARK
1923 W. North Ave. Chicago 22, Ill.

CHOCOLATE EQUIPMENT AVAILABLE:

Lehman 7-compartment Cracker and Fanner, Carey & Ross 36" triple mills, 16 x 40 Three-Roll Refiners; 18 x 33 Five-Roll Refiners, Lehman 4-pot Conges, miscellaneous chocolate kettles. Box 731, **The MANUFACTURING CONFECTIONER.**

MACHINERY WANTED

WANTED: Package Machinery DF1 Bar Wrapper. State age, condition, and best cash price. Box 6310, **The MANUFACTURING CONFECTIONER.**

WANTED: Used Confectionery Laboratory model equipment: mixers, vacuum cookers, beaters, MacMichael viscosimeter, pH meters, etc. for Sponsored Industrial Research. Write Box 733, **The MANUFACTURING CONFECTIONER.**

POSITIONS WANTED

CANDY PRODUCTION MANAGER—Seasoned administrator, practical candy man, packaging specialist, mechanical background, 12 years experience, accept full responsibility for your plant. Box 632, **The MANUFACTURING CONFECTIONER.**

PAN MAN AVAILABLE: 35 years experience in general pan line. Hot and cold grossing finish and polish, including chocolate pan work. 15 years in charge pan department as foreman. Best of references. Desires a change. Box 438, **The MANUFACTURING CONFECTIONER.**

POSITION WANTED—Experienced Pan Man available for position as foreman. 36 years experience, 28 as foreman. Complete line in Pan work, excluding none. Prefer East or West coast. Box 302, **The Manufacturing Confectioner.**

CANDY EXECUTIVE: Plant manager of leading candy manufacturer for several years. Experienced in all plant operations plus purchasing, production and distribution. Proven ability to assume full responsibility of plant operations. Box 734, **The MANUFACTURING CONFECTIONER.**

CANDY, FOOD TECHNOLOGIST, with wide experience in the development, production and technical control of a complete line of confectionery and chocolate products, as well as numerous other foods, desires a position of responsibility in which he can fully use his ability. Box 433, **The MANUFACTURING CONFECTIONER.**

CANDY SUPT.—Over forty years experience practical candy maker. This ad should be of interest to busy owner who needs a man experienced and capable of assuming full responsibility for all factory operations. Box 735, **The MANUFACTURING CONFECTIONER.**

HELP WANTED

ALL AROUND CANDY MAKER for wholesale candy manufacturing, making full line of tropical candies. Must be experienced in chocolates and enrober work. A-1 references required. Located Miami, Fla. Steady employment. Salary open, excellent working conditions. Box 532, **The MANUFACTURING CONFECTIONER.**

REPRESENTATIVES WANTED

CANDY MANUFACTURER'S REPRESENTATIVES, to handle 5c Vending Items in Southern, Midwestern, and New England Territories. S. Zitner, 1140 N. American St., Philadelphia 23, Pa.

SALES LINES WANTED

LINE WANTED FOR FLORIDA: To sell wholesale Candy, Tobacco and Grocery Jobbers. Food and Drug Chains. Dept. and Variety store. Box 732, **The MANUFACTURING CONFECTIONER.**

BUSINESS OPPORTUNITY

MANUFACTURING OPPORTUNITY—old established Name Package chocolate plant, Midwest—as branch or for sale. December profit \$12M. Prepare now for big fall business. Box 634, **The MANUFACTURING CONFECTIONER.**

MISCELLANEOUS

XMAS PRINTED CELLOPHANE, red and green. 300MST. 650 lb. in 7¼ inch rolls. Sacrifice at 60c lb. **Sylvan Sweets Co., Box 48, Easton, Penna.**

WE BUY & SELL

ODD LOTS • OVER RUNS • SURPLUS

"Cellophane" BAGS

SHEETS • ROLLS • SHREDDINGS
Cellophane rolls in cutter boxes 100 ft. or more

ALSO MADE OF OTHER CELLULOSE FILM

Wax - Glassine Bags, Sheets & Rolls

Tying Ribbons—All

Colors & Widths

Scotch Tape

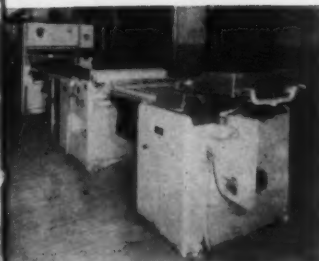
Clear & Colors

Diamond "Cellophane" Products

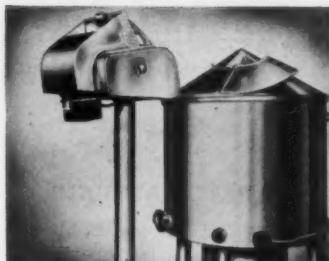
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SENSATIONAL OFFERINGS

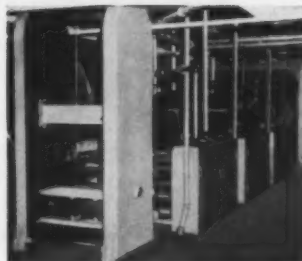
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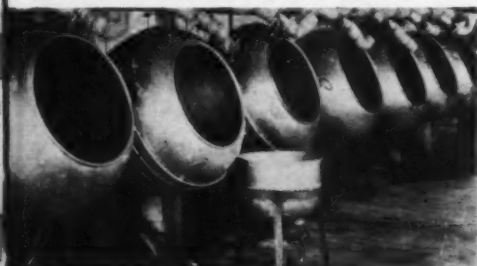
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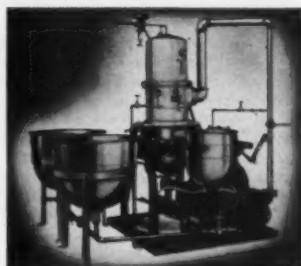
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Greer 10 lb. Chocolate Block Breaker.
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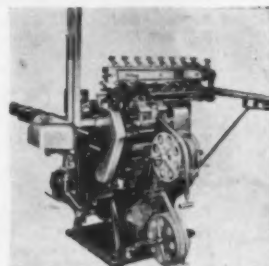
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INDEX TO ADVERTISERS

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Advertisements of suppliers are a vital part of the industrial publications's service to its readers. The following firms are serving the readers of The MANUFACTURING CONFECTIONER by placing their advertisements on its pages. The messages of these suppliers are certainly a part of the literature of the industry.

Advertising space in The MANUFACTURING CONFECTIONER is available only to firms supplying equipment, materials, and services for the use of confectionery manufacturers. Advertising of finished confectionery products is not accepted.

★ ★ ★

RAW MATERIALS

Ambrosia Chocolate Company	50	Funsten, R. E., Company	54	Pfizer, Chas., & Co., Inc.	7
American Food Laboratories, Inc. June '53		Givaudan Flavors, Inc. June '53		Refined Syrups & Sugars, Inc.	June '53
American Malt-Products Co. June '53		Gunther Products, Inc. April '53		Solvay Process Division, Allied Chemi- cal & Dye Corporation	June '53
Walter Baker Chocolate & Cocoa June '53		Hooton Chocolate Co. 62		Southern Pecan Shelling Co.	15
Basic Industries, Inc. June '53		Hubinger Co., The	18	Speas Company	48
Blanke-Baer Extract & Preserving Co. June '53		Kohnstamm, H., & Company, Inc.	51	Staley, A. E. Mfg. Company	16
Blumenthal Bros. Chocolate Co.	55	Magnus, Maboe & Reynard, Inc. June '53		Stange, Wm. J., Co.	58
Burke Products Co., Inc. June '53		Merckens Chocolate Company, Inc.	10	Sterwin Chemicals, Inc. 2nd Cover	
Bon Bon Coating Company	May '53	Monsanto Chemical Company	9	Sugar Information, Inc. June '53	
California Almond Growers Exchange....	6	National Aniline Division, Allied Chemi- cal & Dye Corporation	17	Sunkist Growers	13
Clinton Foods Inc. June '53		National Sugar Refining Co., The June '53		Sun-Ripe Coconut Corp.	50
Dodge & Olcott, Inc. 14		Nestle Company, Inc., The	June '53	Synflour Scientific Laboratories, Inc.	11
The Dow Chemical Company	June '53	Neumann, Buslee & Wolfe, Inc.	53	Union Starch & Refining Co. May '53	
E. F. Drew & Co., Inc. June '53		Norda Essential Oil and Chemical Company, Inc. 4th Cover		Van Ameringen-Haebler, Inc.	3
Durkee Famous Foods	April '53	The Nulomoline Division	June '53	Wilbur-Suchard Chocolate Company, Inc.	8
Felton Chemical Company, Inc. June '53		Penick & Ford, Ltd., Inc.	55	Wood & Selick Sweetened Coconut Co., Inc. June '53	
Flavor Corporation of America	June '53				
Florasynth Laboratories, Inc. June '53					
Food Materials Corporation	12				
Fritzsche Brothers, Inc. 4					

PRODUCTION MACHINERY AND EQUIPMENT

American Machine & Foundry Co.	31	Greer, J. W., Company	June '53	Racine Confectioners' Machinery Co.	26
Norman Bartlett Limited	June '53	Green Mfg. Co. June '53		F. B. Redington Co.	24
Raywood Mfg. Co., Inc. 44		Goddard, J. Alan, Ltd. June '53			
Blackmer Pump Company	May '53	Haensel-Junior	32	Savage Bros. Co.	35
Burrell Belting Co. 38		Lehmann, J. M., Company, Inc.	41	Savage, Robert E., Company	June '53
Carle & Montanari	45	National Equipment Corp. June '53		Schutz-O'Neill Co. May '53	
Fred S. Carver Inc. June '53		E. T. Oakes Corporation, The	25	Sheffman, John, Inc. 23, 30, 37	
Chocolate Spraying Co., Inc. 37		Peerless Confectionery Equipment Co. June '53		Standard Casing Co., Inc., The	40
Cincinnati Aluminum Mould Co.	44			Stehling, Chas. H., Co.	40
Corrigan, J. C., Co. Inc. 58				Vacuum Candy Machinery Co.	26
Girdler Corporation, The	46			Voss Belting & Specialty Co.	28

PACKAGING SUPPLIES AND EQUIPMENT

Ameco Packaging Machinery, Inc. June '53		Hayssen Mfg. Company	June '53	Package Machinery Co. 27, 3rd Cover	
Brown Bag Filling Machine Co., Inc. April '53		Heekin Can Co., The	June '53	Radio Corporation of America	33
Bulkley, Dunton Paper Co., S.A. June '53		Hinde & Dauch	59	Rhineland Paper Company	June '53
Champion Bag Company	June '53	Hudson-Sharp Machine Co.	39	Riegel Paper Corporation	June '53
Cooper Paper Box Corporation .. June '53		Ideal Wrapping Machine Company	44	Shellmar Products Corporation	June '53
Crystal Tube Corporation	June '53	Kiwi Coders Corp.	61	Sweetnam, George H., Inc.	June '53
Daniels Manufacturing Co. June '53		Lynch Corporation, Packaging Machine Division	June '53	Taft, R. C., Co.	81
Diamond "Cellophane" Products	64	Milprint Inc. June '53		Thilmany Pulp & Paper Co.	June '53
Exact Weight Scale Company	34	Nasua Corporation	June '53	Tompkins' Label Service	June '53
Gair, Robert, Company, Inc. June '53		Olive Can Company	57	Triangle Package Machinery Co.	June '53
G. D. Bologna	36			Union Confectionery Machine Co., Inc.	65
				Wright Machinery Company	June '53



Model PA Carton Former

BETTER CANDY CARTONS

AT A SAVING!

Don't let the high cost of prefabricated or hand set-up cartons get you down. There is a way to obtain top-notch cartons and cut costs at the same time!

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**PACKAGE
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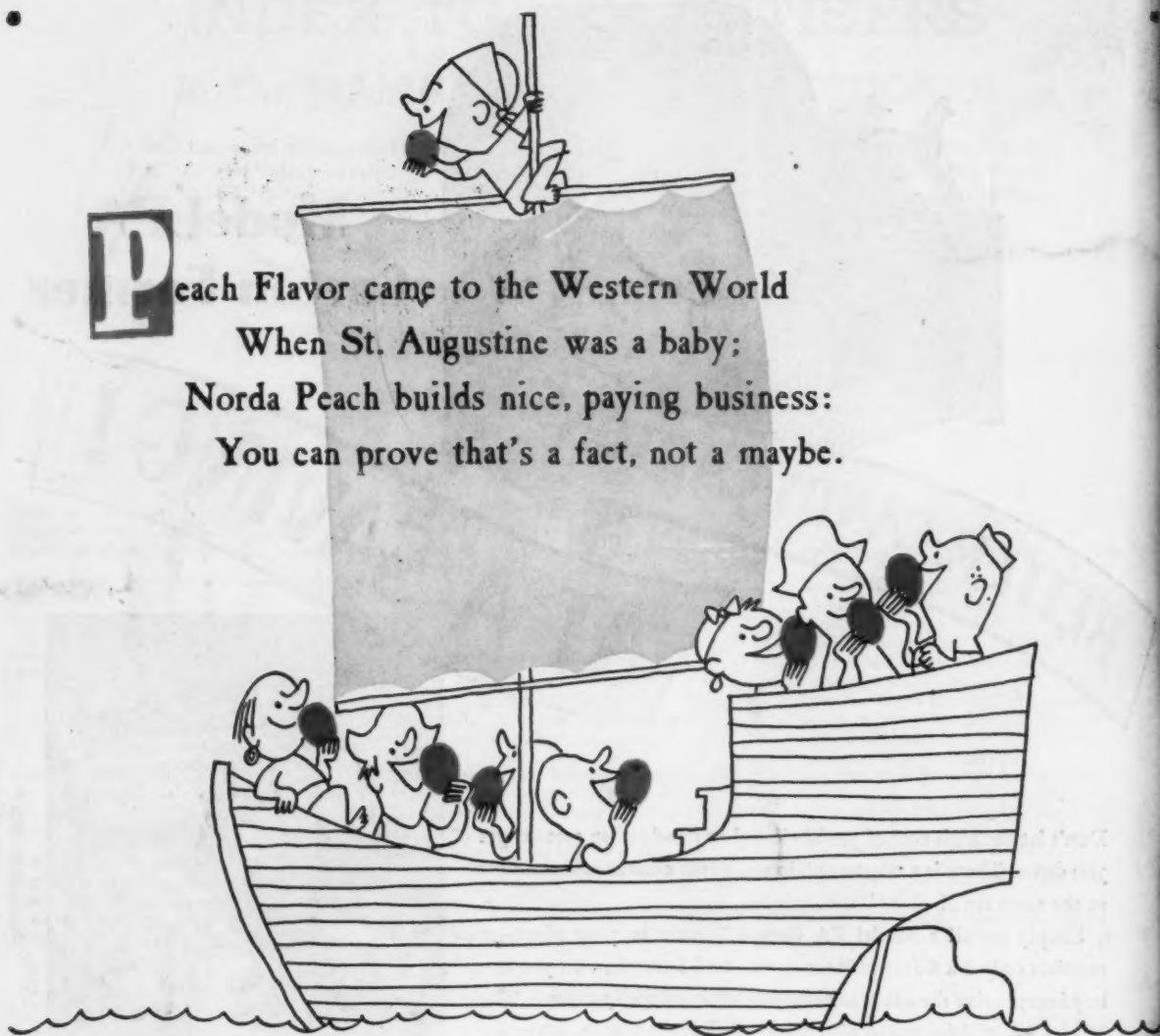
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You can prove that's a fact, not a maybe.



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